













# ECONOMIC PRODUCTS OF INDIA

EXHIBITED IN THE ECONOMIC COURT,

Calcutta International Exhibition, 1883-84

BY

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*In charge of the Economic Court and of the Central Office, Calcutta International  
Exhibition of 1883-84.*

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PART VII.

## TIMBERS.

COMPILED BY

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## PREFACE

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HAVING been asked by the Government of India to prepare an Imperial Dictionary of the Indian Economic Products, I early resolved to make Mr. J. S. Gamble's admirable "Manual of Indian Timbers" the standard of all matters relating to Forestry.

Mr. F. B. Manson, the officer sent to the Calcutta International Exhibition in charge of the Forest Department Collections, offered to prepare his Catalogue uniform with the published parts of the present series, so that it might be utilized in the Dictionary. Having obtained the consent of Mr. Gamble, this Catalogue was further prepared as an abstract, alphabetically arranged, of his "Manual of Timbers." It has incorporated numerous corrections and additions received from Mr. Gamble and other distinguished authorities. For the convenience of persons consulting Mr. Gamble's Manual or inspecting his original collection, the experimental numbers embossed upon the blocks of wood have been reprinted. But as these cannot be regarded as Catalogue numbers (the same species of wood often having many numbers indicating the experiments performed to determine weight and durability), the marginal numbers are those printed on the labels attached to the collection now exhibited.

From my personal knowledge of the accuracy of Mr. Manson's work, I have little doubt Part VII will prove a most valuable addition to the series of the "Economic Products of India."

GEORGE WATT.



# ECONOMIC PRODUCTS OF INDIA

EXHIBITED AT THE

Calcutta International Exhibition, 1883-84

## FOREST SECTION.

### PART VII.—Timbers.

#### ABELIA.

*Abelia triflora*, R. Brown, CAIRIOIACEÆ

Vern. *Adi, piktamar*, TRANS INDIA *Chetabuta* JHFI M *Banlakharu*  
*ilmner*, CHENAB *Daliq, kut* S, RAVI, *Zbang, mat-banv feni*,  
 SUTLEJ *Munri g, atti knuki*, KUMAUN

A large shrub, met with in Safedkoh and the Suliman Range,  
 North-West Himalaya between 4,000 and 10,000 feet

Wood hard, close and even-grained Weight 65 lbs per cubic foot

Not used

H 2937 Naldehra, Simla, 7,500 feet . . . 65 lbs.

#### ABIES.

*Abies dumosa*, Loudon, CONIFERÆ

THE INDIAN HEMLOCK SPRUCE.

Vern.—*Changthasi dk ip, thingra, thingani sula*, NEPAL, *Tangshing*,  
 BHUTIA, *Se nadang chemdang*, LEPCHA

A large tree met with in North-East Kumaun, Nepal, and Sikkim  
 between 8,000 and 10,500 feet

Wood, soft, with a slight pinkish tinge Weight 27 to 29 lbs per  
 cubic foot

Used in Sikkim for shingles It is suitable for planking and rough

work. The bark is also used for roofing

E 377 Phallaloong ridge, Darjeeling, 10,000 feet . . . 27 lbs.

E 968 Chumbi Valley, Tibet, about 10,000 feet . . . 29

ABIES.

1

2

## ABIE.

3! **Abies Smithiana, Forbes.**

## THE HIMALAYAN SPRUCE.

**Vern.**—*Wesha, bajār*, AFG.; *Kachal, kachan*, HAZARA, KASHMIR; *Rewari, ban lūdar, angal, salla, sarci, kāuli, roi, rāg, rāo, bang re, krok*, PB. HIMALAYA; *Tos, RAVI; Rau, raiaṅg, re, SUTLEJ; Rai, JAUNSAIR; Kandre, re, rhui, rāo, khutrau, riālla, rāgha, morinda, kail, silu, GARHWAL, KUMAUN; Sehshing, BHUTIA.*

A lofty tree met with in the North-West Himalaya between 7,000 and 11,000 feet; in Sikkim and Bhutan in the inner valleys between 7,800 and 10,000 feet; and in the mountains of Afghanistan, Kafristan and Gilgit.

Wood white, with a reddish or brown tinge, a little harder than that of *A. Webbiana*. The inner belt of annual rings soft and spongy. Weight on an average of 30 lbs. per cubic foot.

The wood is extensively used locally, *e. g.*, in Simla, for packing-cases, rough furniture and planking, and sometimes for shingles. It crackles and sends out sparks in burning, besides burning away very quickly, but it is much used for charcoal.

		lbs.
H 3165.	Dungagalli, Hazara, 7,000 feet	...
H 775.	Kalatōp Forest, Dalhousie, 7,000 feet	31
H 3.	Mahasu Forest, Simla, 8,000 feet	28
H 12.	" " " " " "	32
H 43.	" " " " " "	32
H 2896.	Nagkanda, Simla, 9,000 feet	...
H 3032.	Hattu Forest, Simla, 9,000 feet (young tree)	39
H 420.	Mohna Block, Deoban Forest, 8,000 feet	26

E 965 sent by Dr. Schlich from the Chumbi Valley, Tibet, between Sikkim and Bhutan, from about 9,000 to 10,000 feet, is a species of

• *Abies* closely allied to *A. Smithiana*, the structure of the wood is identical.

4 **A. Webbiana, Lindl.**

## THE HIMALAYAN SILVER FIR.

**Vern.**—*Palūdar, rewari*, JHELAM; *Bādar, būdar, tāng*, KASHMIR; *Dhūnu, rāg, rail, pe, re, salla, sara*, CHAMBA; *Tos*, KULU; *Spin, pun, krok, kalri*, KUNAWAR; *Bharda, thanera*, SHALI; *Burla, pindrau, pindrai*, HATTU; *Kūdrom*, MATIYANA; *Burūl, būrra, būldu*, BHAJJI; *Kalrai, satrai, chār, KOTKAI; Raho, row, chilrow, kilaunta, CHOR; Morinda, JAUNSAIR; Rāgha, rao rāgha, ransla, raisalla*, KUMAUN; *Wūman, BYANS; Gobria sulah*, NEPAL; *Dumshing*, BHUTIA.

A lofty evergreen tree, met with in the Himalaya, from the Indus to Bhutan; in the North-Western Himalaya, between 7,000 and 13,000 feet; in the inner ranges of Sikkim and Bhutan, between 9,000 and 13,000 feet; in the outer ranges it does not descend below 10,000.

Wood white, soft. The inner zone of each annual ring is soft and spongy. Weight about 29 lbs. per cubic foot.

The wood is not durable when exposed to the weather, but see last well as shingles in Sikkim, whence it is sometimes exported to for roofing. At Murree shingles are said to last eight to ten years, in Kulu three to six. In Kunawar and Lahoul it is much used for construction.

		lbs.
H 934.	Hazara, 7,000 feet	29
H 774.	Kalatōp Forest, Dalhousie, 7,500 feet	...
H 2895.	Hattu, Simla, 9,000 feet	...
H 3031.	Hattu, Simla, 9,000 feet	...
H 65.	Nagkanda, Simla, 9,000 feet	29
H 421.	Thona Block, Deoban Forest, 8,000 feet	...
E 359.	Sandukpho, Darjeeling, 11,500 feet	...
E 2437.	" " " " " "	...
E 964.	Chumbi Valley, Tibet, 10,000 feet	2

## ACACIA.

**Acacia arabica, Willd., LEGUMINOSÆ.**

**Vern.**—*Kikar*, PB.; *Babbar, babhula, kali kihar*, SIND; *Rama-katti*, BOM.; *Babul, babur*, HIND; *Babla* BENG.; *Gabur bahar*, SONTAL; *Babolu*, MAL. (S. P.); *Karavetum*, TAM.; *Tuma nella tuma*, TEL.; *Gobli, karrijali*, KAN.

A moderate sized tree, wild probably in Sind, Rajputana, Guzerat, and the Northern Deccan; common everywhere throughout the plains of India.

Sapwood large, whitish; heartwood pinkish-white, turning reddish-brown on exposure, hard, mottled with dark streaks. It consists of darker and lighter coloured bands of an equal width. Weight about 54 lbs.

It is very durable if well seasoned. Used extensively for wheels, well curbs, sugar and oil-presses, rice-pounders, agricultural implements and tool handles. In Sind it is largely used for boat-building, rafters and for fuel, also occasionally for railway sleepers.

	lbs.
P 1198. Madhopur, Punjab . . . . .	58
P 890. Multan . . . . .	49
P 1379. Miani Forest, Sind . . . . .	56
P 440. Ajmere . . . . .	...
C 843. Amraoti, Berar . . . . .	56
D 1051. Salem, Madras . . . . .	56
No. 1. Salem Collection . . . . .	50

**A. Catechu, Willd.**

CATECHU, CUTCH; CACHORE, Fr.

**Syn.**—A. *Sundra Beddome*, MIMOSA *SUNDRA*, Roxb.

**Vern.**—*Khair, katha*, HIND., DEC.; *Khayer, kuth*, BENG.; *Khoira, koir*, ASS.; *Kashukatti, vodalai, karangalli, baga, wodaior, kashu, katti, wothalay*, TAM.; *Podala-manu, kanchu, Sandra, nalla sandra*, TEL.; *Kachu*, KAN.; *Khair*, SANS.; *Sha*, BURM.; *Khoiru*, URIYA; *Kagli*, KAN.; *Khaderi, Khaira*, BOM.; *Ratkihiri*, CINGH.

A moderate sized, gregarious, thorny, deciduous tree, common in most parts of India and Burma, extending in the Sub-Himalayan tract westwards to the Indus. Mr. J. W. Oliver reports that trees 70 to 80 feet high, with a girth of 8 to 9 feet, are not uncommon in the north Tharrawaddy Reserves.

Sapwood yellowish white; heartwood either dark or light red, extremely hard. The wood seasons well, takes a fine polish and is extremely durable. It is not attacked by white ants or by teredo. It is used for rice pestles, oil and sugarcane crushers, agricultural implements, bows, spear and sword handles and wheelwrights' work. In Burma it is used for house posts, and very largely used as firewood for the steamers of the Irrawaddy Flotilla. In Northern India it is used for charcoal, and is one of the best woods for that purpose. It has been found good for railway sleepers, and it is probably only the smallness of the tree and the consequent waste in cutting up that has prevented its more general use.

	lbs.
H 938. Hazara, Punjab . . . . .	...
P 604. Kangra . . . . .	54
P 1196. Madhopur, Punjab . . . . .	63
P 98. Sutlej Valley, Punjab . . . . .	63
P 455. Ajmere . . . . .	...
O 255. Garhwal (1868) . . . . .	53



**ACACIA.**

Valuable for cart-wheels, sugar-cane crushers, Persian water-wheels and agricultural implements.

P 164.	Hoshiarpur (J. L. Stewart, 1866)	lbs.
P 944.	Gujerat	72
P 945.	Multán	68
		67

**15 Acacia pennata, Willd.**

Syn.—MIMOSA PENNATA, Roxb.

Vern.—*Aglā, awal*, KUMAUN; *sembi, sami*, BOMB.; *Biswāl*, HIND.; *Kundaru*, KOL.; *Arar*, KHARWAR; *Undaru*, SONTHAL; *Gurwa*, MAL. (S.P.); *Arju*, NEPAL; *Tol rik*, LEPCHA; *Sooyit*, BURM.

A large climbing shrub, found in Oudh, Kumaun, Nepal, Eastern Bengal, Burma and South India.

Wood porous, moderately hard. Weight 50 lbs. per cubic foot.

E 476.	Balasun Forest, Darjeeling Terai	lbs.
E 2358.	Sivoke " "	...
		50

**16 A. planifrons, W. & A.**

THE UMBRELLA THORN.

Vern.—*Salé, sal*, TEL.

A small gregarious tree of South India.

Wood hard and strong; heartwood red, sapwood white.

Used for agricultural implements, and fuel.

D 3662. Coimbatore, Madras.

**27 A. Suma. Kurz in Brand For. Fl. 187.**

Syn.—MIMOSA SUMA, Roxb.

Vern.—*Sai-kanta*, BENG.; *Kumtia*, PERTABGARH; *Dhāula khejra* (white acacia), BANSWARA; *Gorādo, Mandevi*; *Sonkairi*, DANGS; *Tella sandra*, TEL.

A medium sized tree with white bark and downy branchlets; found in Bengal, Behar Western Peninsular, Ava and Ceylon.

The wood of the following specimens (which probably belong to this species) resembles that of *Acacia Catechu*, but has smaller and more numerous pores, and finer and more numerous medallary lays.

C 1308.	Gumsūr (Khoiru)	lbs.
C 1310.	" (Seme)	75
		70

**18 A. Sundra, DC.**

Vern.—*Sandra Nalla, Sandra*, TEL.; *Karangalli, bágá*, TAM.

Found in the Western Peninsula, Ceylon, and Burma.

The *Flora of British India* remarks: "This is scarcely more than variety of *A. Catechu*, from which it differs in its fewer leaflets" and "total absence of pubescence," and in "the dark-brown colour of its branchlets."

The wood is dark-red, rather close-grained, durable, very heavy, not attacked by insects.

**19 A. vera, Willd.**

Found in Egypt, Arabia, and Northern Africa.

It produces the true gum-arabic.

(Specimens wanted.)

ACER.

20

## ACER.

**Acer caesium, Wall.** SAPINDACEÆ.

THE MAPLE.

**Vern.**—*Trekhan, tarkhana, tilpattar, mandar, kauri, kalindra, salima, kanzal*, PB.; *Kanshin*, TIBET; *Ferimu, shumanjra*, SIMLA; *Kilu*, KUMAUN.

A large deciduous tree, found in the North-West Himalaya from the Indus to Nepal, between 7,000 and 11,000 feet.

Wood white, close-grained, less mottled than that of *A. caudatum*, soft to moderately hard; annual rings distinct. Weight about 40 lbs. per cubic foot.

Scarcely used. Drinking cups are sometimes made of it by the Tibetans.

				lbs.
H	33.	Matiyána, Simla, 7,000 feet	.	40
H	915.	Hazara, Punjab, 7,000 "	.	41
H	3009.	Nagkanda, Simla, 9,000 "	.	...
H	2901.		.	...
H	431.	Deoban, Jaunsar, 8,000 "	.	40

**A. Campbellii, Hook. f. and Th.**

21

**Vern.**—*Kabashi*, NEPAL; *Daom, yatli*, LEPCHA. *Kilok*, BHUTIA.

A large deciduous tree found in the Sikkim Himalaya, above 7,000 feet. The chief Maple of the North-East Himalaya.

Wood greyish white, moderately hard, shining, close-grained. Annual rings marked by a thin line.

It is extensively used for planking and for tea-boxes. It reproduces freely either by seed or by coppice, and plays an important part in the regeneration of the hill forests.

Weight 38 lbs. per cubic foot.

				lbs.
E	436.	Rangbúl, Darjeeling, 7,000 feet	.	37
E	2337.	" "	.	40
E	686.	Sepoydura, Darjeeling, 5,500 feet	.	37

**A. caudatum, Wall.**

22

**Vern.**—*Kansla, kandaru, kanjara*, SIMLA; *Khansing, kabashi*, NEPAL; *Yalishin*, BHUTIA.

A moderate sized deciduous tree, met with in the Himalaya from the Chenab to Bhutan, between 7,000 to 11,000 feet.

Wood white, with a faint pink tinge, shiny, compact, moderately hard, sometimes with small masses of heartwood near the centre. Annual rings distinct. Weight 43 lbs. per cubic foot.

				lbs.
H	27.	Matiyána, Simla, 7,000 feet	.	45
H	41.	Mahasu, " 8,000 "	.	44
H	74.	Kalashi, " 6,000 "	.	41
H	3007.	Nagkanda " 9,000 "	.	...

**A. Hookeri, Mig.**

23

**Vern.**—*Lal kabashi*, NEPAL; *Pald*, LEPCHA.

A deciduous tree, found in Sikkim and Bhutan, above 7,000 feet.

Leaves with copper-coloured foliage are not uncommon about Darjeeling. Wood grey. Weight 37 lbs. per cubic foot.

				lbs.
E	2338.	Rangbúl, Darjeeling, 7,500 feet	.	37

## ACER.

24. *Acer levigatum*, Wall.

Vern.—*Saslenđi, cherauni, thali kabashi*, NEPAL; *Tungnyok*, LEPCHA.

A deciduous tree, found in the Himalaya from the Jumna eastwards to Bhutan, between 5,000 and 9,000 feet, in the Khasia Hills and in Tenasserim.

Wood white, shining, hard, close-grained. Weight 43 lbs. per cubic foot.

Used for planking and tea-boxes.

E 684. Sepoydura, Darjeeling, 5,500 feet

lbs.

43

25. *A. oblongum*, Wall.

Vern.—*Mark*, PB.; *Mharengala, patangalia, kirmoli*, N.-W. P.; *Pugila, bušimpāta*, NEPAL.

A moderate sized deciduous tree, found in the Himalaya from the Jhelum eastwards to Bhutan, up to 6,000 feet.

Wood light-reddish-brown, moderately hard, close-grained. Annual rings faintly marked. Weight 45 lbs. per cubic foot.

Used for agricultural implements, and drinking cups.

H 221. Garhwal (1868)

lbs.

H 2944. Sutlej Valley, near Suni, 3,000 feet

45

...

26. *A. pictum*, Thunb.

Vern.—*Kilpattar, trekhan, tarkhana, kakru, kansal, kanjar, jerimu, laur*, PB.; *Kancheli*, N.-W. P.; *Dhadonjrq*, SIMLA; *Mandar*, CHENAR.

A moderate-sized tree, found in the Outer and Middle Himalaya from the Indus to Assam, between 4,000 and 9,000 feet.

Wood white, soft to moderately hard, close-grained. The commonest Maple of the North-West Himalaya. Weight 41 lbs. per cubic foot.

It is used for construction of ploughs, bedsteads, and poles to carry loads. Tibetan drinking cups are made of the knotty excrescences.

H 931. Hazara, Punjab, 8,000 feet

lbs.

H 3008. Nagkanda, Simla, 9,000 "

41

H 432. Deoban, Jaunsar, 7,000 "

43

38

27. *A. sikkimense*, Miq.

Vern.—*Palegnyok*, LEPCHA.

A small tree, found in the hills of Sikkim and in Bhutan, from 7,000 to 9,000 feet, and in the Mishmi Hills.

Wood shining, grey; annual rings distinct. Weight 37 lbs.

E 3102. Darjeeling, 7,000 feet

lbs.

37

28. *A. Thomsoni*, Miq.

Syn.—*A. villosum*, Wall, Var. *Hook* (Fl. Ind., i, 605.)

Vern.—*Kabashi*, NEPAL.

A large tree, found in the Hills of Sikkim and in Bhutan, above 4,000 feet.

Wood greyish-white, soft. Weight 44 lbs. per cubic foot.

E 3103. Darjeeling, 5,000 feet

lbs.

44

29. *A. villosum*, Wall.

Vern.—*Karendera*, SIMLA.

A large deciduous tree, found in the North-West Himalaya from the Jhelum to Nepal, between 7,000 and 9,000 feet.

Wood white, moderately hard, close-grained, beautifully mottled and shining; annual rings distinct. Weight 38 lbs. per cubic foot.

Not used.

	lbs.
H 62. Nagkanda, Simla, 8,000 feet . . . . .	38
H 3006. } . . . . .	
H 2899. } . . . . .	
H 167. Kangra (1866) . . . . .	

ADENANTHERA

## ACROCARPUS.

**Acrocarpus fraxinifolius**, Wight., LEGUMINOSÆ.

Vern.—*Mandania*, NEPAL; *Mad ling*, LEPCHA.; *Mallay kone*, TINNEVELLY; *Kulingi*, BURGHES; *Hantige*, *belanj*, *havutige*, KAN.

A lofty deciduous tree, found in the Hills of the Eastern Himalaya down to Chittagong, ascending to 4,000 feet, and in South India and Burma.

Sapwood white; heartwood light-red, moderately hard. Weight 39 lbs. per cubic foot.

It is used by planters in Darjeeling for tea-boxes and planking, in the Wynad for building and furniture, and in Coorg for shingles.

	lbs.
E 667. Lama Gumba Forest, Darjeeling . . . . .	39
D. 1085. Madura, Madras . . . . .	39

## ADANSONIA.

**Adansonia digitata**, Linn., MALVACEÆ.

THE BAOBAB TREE OF THE MONKEY BREAD TREE OF AFRICA.

Vern.—*Gorakhachincha*, *gorakha-amli*, BOMB.; *Gorakimli*, HIND.; *Kalpbriishk*, AJMERE, DELHI; *Haihi-khatyan*, DEC.; *Anai-kuliya-roy*, *Papapapulia*, TAM.; *Hujed*, ARAB.

This is probably the biggest and the longest-lived tree in the world.

It has been found thirty feet in diameter. Cultivated in some parts of India to a small extent; deserves to be extended. Introduced from tropical Africa.

The wood is light, soft and porous, made into rafts to support fishermen in tanks. The fruits are used as floats. (*Brandis*.)

## ADENANTHERA.

**Adenanthera pavonina**, Linn., LEGUMINOSÆ.

RED WOOD OF RED SANDAL WOOD.

Vern.—*Rakta-chandan*, *ranjana*, BENG.; *Ani kundmani*, TAM.; *Bandi gurivenda*, TEL.; *Manjati*, MAL.; *Thorlagan*, MAR.; *Vale*, *thorlagooni*, BOMB.; *Manjadi*, KAN.; *Madateya*, CINGH.; *Gung*, MAGH; *Ywaygyee*, BURM.; *Rechedd*, AND.

A large, deciduous tree met with in Bengal, South India, and Burma; sometimes called Red Sandal Wood.

Heartwood red, hard, close-grained, durable and strong.

The wood is used in South India for house-building and cabinet-making purposes, and gives a red dye.

	lbs.
B 523. Andaman Islands . . . . .	56

## ADINA.

## ADHATODA.

33 *Adhatoda Vasica*, Nees, ACANTHACEÆ.

Syn.—JUSTICIA ADHATODA, Linn.

Vern.—*Arúsá*, HIND.; *Bakas, vasúka*, BENG.; *Bhekkar*, JHELM; *Basúti*, BEAS; *Bekkar*, SALT RANGE; *Tora bujja*, TRANS-INDUS; *Bashang-arús*, KUMAUN; *Arus*, SANS.; *Basung*, URIYA; *Adhatoda*, TAM.; *Adasara*, TEL.; *Teesha*, NAGA; *Kath, nlesi*, NEPAL.

A small, sub-herbaceous bush, often gregarious, found everywhere in Bengal, and in the Sub-Himalayan tract, ascending to 4,000 feet in altitude.

Wood white, moderately hard.

It is used for gunpowder charcoal and for brick-burning.

H 2943. Sutlej Valley, Simla, 3,000 feet.

## ADINA.

34 *Adina cordifolia*, Hook. f. and Bth., RUBIACEÆ.

Syn.—NAUCLEA CORDIFOLIA, Roxb. (Fl. Ind., i., 514.)

Vern.—*Haldú, hardú, karak*, HIND.; *Bangka, keli-kadam, petpuria, da-kúm*, BENG.; *Kúrumba, komba, Sanko*, KOL; *Karám, SANTALI*; *Bara-kuram*, MAL. (S. P.); *Karam*, NEPAL; *Tikkoe*, BAHRACH and GONDA; *Hariu, paspu, kurmi*, GOND; *Holonda*, URIYA; *Shengdong*, GARO; *Roghú*, ASS.; *Manjakadambe*, TAM.; *Banularu, dúdagú, paspu kadambe*, TEL.; *Hedde, yettíga, pettíga, arsanatíga, yettada, ahuan*, KAN.; *Hedu*, MAR.; *Kolong*, CINGH.; *Thaing*, MAGH; *Hnaubeng*, BURM.

A large deciduous tree, found in the Sub-Himalayan tract from the Jumna eastwards, ascending to 3,000 feet, and throughout the moister regions of India and Burma.

Wood yellow, moderately hard, even-grained. No heartwood, no annual rings. It seasons well, takes a good polish, and is durable, but somewhat liable to warp and crack. Weight 40 to 50 lbs.

It is good for turning, and is extensively employed in construction, for furniture, agricultural implements, opium boxes, writing tablets, gun stocks, combs and occasionally for dug-out canoes.

	lbs.
O 215. Garhwal (1868) . . . . .	43
O 2994. " (1874) . . . . .	46
O 1491. Kheri, Oudh . . . . .	48
O 340. Gorakhpur . . . . .	41
C 825. Bairagarh Reserve, Berar . . . . .	48
C 2988. Jubbulpore (1863) . . . . .	43
C 1136. Ahir Reserve, Central Provinces . . . . .	44
C 1245. Gumsúr, Madras . . . . .	49
E 2387. Bamunpoki, Darjeeling Terai . . . . .	50
B 2538. Burma (1862) . . . . .	43
No. 35. Salem Collection . . . . .	40
C 3543. Khurda Forests, Orissa . . . . .	43
C 3685. Palamow, Chutia Nagpore (1882) . . . . .	44

35 *A. sessilifolia*, Hook. f. and Bth.

Syn.—NAUCLEA SESSILIFOLIA, Roxb.; NAUCLEA SERICEA, Wall.

Vern.—*Kúm*, BENG.; *Kúmkoí*, CHAKMA; *Thaing*, MAGH; *Teingala, thilpayoung*, BURM.

A small tree of Chittagong and Burma.

The wood is hard, yellow-brown. Weight 55 lbs.

Used in Chittagong for building purposes and firewood. In Chitta-

## ÆGLE.

gong it is perhaps the only gregarious tree, being commonly found on flat places on the banks of rivers.

		lbs.
E 1391.	Chittagong . . . . .	53
B 2537.	Burma (1862) . . . . .	56
B 3069.	" . . . . .	56
E 3694.	Chittagong (1882) . . . . .	58

## ÆGIALITIS.

*Ægialitis rotundifolia*, Roxb., PLUMBAGINÆE.

A small evergreen treelet, found in the tidal forests of the Sunderbans, Chittagong, Arracan, Burma and the Andaman Islands.

The structure of the wood is very curious, resembling that of the *Mecotyledons*. It consists of a soft pithy substance with scattered wood-pore-bearing wood resembling the fibro-vascular bundles but quite distinct in character.

	lbs.
E 3644. Sundarbans . . . . .	

## ÆGICERAS.

*Ægiceras corpiculata*, Blanco, MYRSINÆE.

Syn.—*Æ. MAJUS*, Gaertn Roxb., *Fl. Ind.*, iii, 130.)

Vern.—*Halai, khalsai*, BENG.; *Bootayet*, BURM. *Kanjla, chaweer*, SIND.

A small evergreen tree, met with in the coast forests and tidal creeks of the Western Coast, Beng. I, Burma and the Andaman Islands.

Wood hard, close-grained. No annual rings. Weight 40 lbs.

Used for firewood and for native huts in Jessore.

	lbs.
E 406. Sundarbans . . . . .	40

## ÆGLE.

*Ægle Marmelos*, Corr., ANUTACEÆ.

THE BAEI OF BEL FRUIT TREE.

Vern.—*Bil*, HIND.; *Bela*, BENG.; *Sripthal*, SANS.; *Lohagasi*, KOL.; *Auretpang*, MAGH.; *Vilva-pasham*, TAM.; *Bela, bila, bilva, Katoree*, SIND.; *Maredu*, TEL.; *Maika, mahaka*, GOND; *Bela*, KURKU; *Bilapatri*, KAN.; *Okshit*, BURM.

A small tree, found in cultivation all over India; grows in Sub-Himalayan forests from the Jhelum eastward, in Central and South India, and in Burma.

Wood yellowish white, hard, with a strong aromatic scent when fresh cut; no heartwood, not durable, readily eaten by insects. Weight 40 to 50 lbs. (*Brandis*); *Wallich* gives 49; our specimens average 57 lbs.

Used in construction, for the pestles of oil and sugar-mills, naves and other parts of carts, and for agricultural implements.

	lbs.
P 441. Ajmere . . . . .	
O 248. Garhwal (1868) . . . . .	57
O 268. " . . . . .	60
C 1176. Ahiri Reserve, Central Provinces . . . . .	52
C 2785. Melghat, Berar . . . . .	62
E 2486. Calcutta . . . . .	
E 638. Goalpara, Assam . . . . .	53
B 564. Prome, Burma . . . . .	60

AILAN-  
THUS.

## ÆSCULUS.

39 *Æsculus indica*, Colebr., SAPINDACEÆ.

THE INDIAN HORSE-CHESTNUT.

Vern.—*Torjaga*, TRANS-INDUS; *Háne*, *hanúdún*, KASHMIR; *Bankhor*, *gugu*, *kanor*, *pánkar*, HIND.

A large tree, deciduous found in the North-West Himalaya, between 4,000 and 10,000 feet, from the Indus to Nepal.

Wood white, with a pinkish tinge, soft, close-grained. Weight 34 lbs. per cubic foot.

It is used for building, water troughs, platters, packing-cases and tea-boxes. The Tibet drinking cups are sometimes made of it.

		lbs.
H 31.	Matiyána, Simla, 7,000 feet	34
H 166.	Kangra, Punjab (1866)	...
H 936.	Hazara, Punjab	35
H 776.	Kalatop, Punjab, 7,000 feet	34

40 *Æ. punduana*, Wall.Syn.—*Æ. ASSAMICA*, Griff. (*Kura*, 286.)Vern.—*Cherinangri*, NEPAL; *Kunkirkola*, *ekuhea*, ASS.; *Dingri*, DUARS; *Bolnawak*, GARO.

A moderate-sized, deciduous tree, found in Northern Bengal, in the Khasia Hills, Assam and Burma, ascending to 4,000 feet.

Wood white, soft, close-grained. Weight 36 lbs. per cubic foot.

Rarely used.

		lbs.
• E 3139.	Buxa Reserve, Western Duars	36

## AFZELIA.

41 *Afzelia bijuga*, A. Gray, LEGUMINOSÆ.Vern.—*Shoondul*, *hinga*, BENG.; *Pynkado*, BURM., IN THE ANDAMANS; *Pirijdá*, *dsagundá*, AND.

A moderate-sized evergreen tree, found in the Sundarbans of Bengal, Andaman Islands, and the Malay Archipelago.

Sapwood white, moderately hard, relatively large in young trees. Heart-wood reddish-brown, hard, close-grained. Weight, young wood, 36 to 42 lbs.; old wood, 45 to 49 lbs. (*Brandis, Memorandum on Andaman Woods*, 1874, Nos. 12 and 13, gives 50 lbs.)

A valuable wood, used in the Andamans for bridge and house-building.

		lbs.
E 403.	Sundarbans	36
E 415.	"	42
B 315.	Burma (1867) ( <i>Kohbeng</i> )	49
B 524.	Andaman Islands	45
B 209.	" " (1866)	48

## AILANTHUS.

42 *Ailanthus excelsa*, Roxb., SIMARUBÆÆ.Vern.—*Aráa*, MEYWAR; *Maha rukh*, HIND., MAR.; *Mahanim*, RIVA; *Ghorkaram*, PALAMOW; *Peru pee*, TAM., *Pedu*, *pey*, *pedda*, TEL.; *Gámi-kawat*, URIYA.

A large tree, often planted in Central and Southern India.

## ALBIZZIA

Wood soft, white. Structure similar to that of *A. malabarica*.  
Weight 28 lbs. per cubic foot.

Used to make floats for fishing, sword handles, spear sheaths and catamarans.

	lbs.
C 2784. Melghát, Berar . . . . .	...
No. 4. Salem Collection . . . . .	28
C 3449. Betlah Reserve, Palamow . . . . .	...

**Ailanthus malabarica, DC.**

Vern.—*Peru*, TAM., TEL.; *Dhúp, бага-дхúp, gogul-dhúp*, KAN.; *Manda-dúpa*, HASSAN.; *Mát'i pal*, ANAMALAI; *Kambalu, walbiling*, CINGH.

A large deciduous tree, abundant in the Western Ghâts; rare in Pegu. Often planted in South India for ornament.

Wood white, very soft and spongy. Weight 23 lbs. per cubic foot.  
Not used.

	lbs.
W 746. South Kanara . . . . .	23

## ALANGIUM.

**Alangium Lamarckii, Thwaites, CORNACEÆ.**

Syn.—*A. DECAPETALUM*, Roxb. (*Fl. Ind.*, ii, 502); *A. DECAPETALUM*, Lam (*Kurz*, i, 543.)

Vern.—*Akola, thaim*, HIND.; *Kalá akolá ankola*, BOMB.; *Akar-kanta, bagh ankurá*, BENG.; *Dela*, SONTAL.; *Kimri*, MAL. (SP.); *Ankol*, KOL.; *Ankula, dolanku*, URIYA; *alangi*, TAM.; *Urgu, kudagu*, TEL.; *Ankola*, KAN.; *Uru*, GOND.

A deciduous shrub or small tree, met with in the Sub-Himalayan tract from the Ganges eastwards, in Oudh, Bengal, and Central and South India.

Sapwood light-yellow; heartwood brown, hard, close and even-grained. Weight 49 to 56 lbs.

It is used for pestles for oil-mills, wooden cattle-bells, and other purposes, and is valuable for fuel.

	lbs.
C 3116. Chanda, Central Provinces . . . . .	56
D 1082. North Arcot, Madras . . . . .	49
C 3466 Saranda Forests, Chota-Nagpore . . . . .	...
C 3564. Khurdha Forests, Orisa . . . . .	42

## ALBIZZIA.

**Albizzia amara, Boivin., LEGUMINOSÆ.**

Syn.—*A. AMARA* and *A. WIGHTII*, Grah. (*Beddome*, t., 61, xcvi); *MIMOSA AMARA* and *M. PULCHELLA*, Roxb. (*Fl. Ind.*, ii, 548.)

Vern.—*Lallei*, DEC.; *Lulai*, BOMB.; *Thuringi, wúnya, suranji, shekram*, TAM.; *Naliarenga, shekrani, sikkai, narlingi*, TEL.; *Wusel*, MADURA (MADRAS); *Bel-khambi*, KAN.; *Kadsige*, COORG; *Oosulay*, MAL.

A moderate-sized deciduous tree met with in South India and the Dekkan.

Sapwood large; heartwood purplish-brown, beautifully mottled, extremely hard, with alternate, concentric, light and dark bands.

Skinner, No. 1, gives the weight at 70 lbs.; our specimens weigh 61 to 62 lbs. Skinner also gives P=1284, and says: "The wood is strong, fibrous and stiff, close-grained, hard and durable, superior to *Sai* and



## ALBIZZIA.

teak in transverse strength and direct cohesive power; also that it is useful for the beams of native houses and carts, the wood of the crooked branches for ploughs." Beddome says it is a good fuel, and is extensively used for the locomotives at Salem and Bangalore.

D 1052, Salem, Madras	lbs.	61
No. 6, Salem Collection		62

## 46 Albizzia Julibrissis, Boivin.

PINK SIRIS.

Syn.—MIMOSA KALKORA, Roxb. (Fl. Ind., ii, 547 (?).

Vern.—*Sirin, kurmu, surangru, shirsh, shishi, bāna, tandāi, mathirshi, brind*, PB.; *Lal siris, baraulia, barau, bhokra*, HIND.; *Kalkora* (?), BENG.

A moderate sized deciduous tree, met with in the Himalaya, from the Indus to Sikkim, ascending to 5,000 feet.

Sapwood large; heartwood dark-brown, almost black in old trees; beautifully mottled, shining. Annual rings distinctly marked by a sharp line. Weight 43 to 52 lbs. per cubic foot.

Used to make furniture.

H 97, Sutlej Valley, Simla, 4,000 feet	lbs.	52
H 152, Sainj, Simla, 4,000 feet		43

## 47 A. Lebbek, Benth.

THE SIRIS TREE.

Syn.—ACACIA SIRISSA, Roxb.

Vern.—*Siris, sirin, sirār, kalsii, tantia, garso*, HIND.; *Sirisha*, BENG.; *Tinia*, URIYA; *Harreri*, PANCH MEHALS; *Vaghe, kot vaghe*, TAM.; *Dirasan, darshana, kat vage, pedda duchirram*, TEL.; *Kal baghi, bengha*, KAN.; *Chichola*, MAR.; *Sirasa, suree*, SIND.; *Kokoh*, BURM.; *Beymadā, gachodā*, AND.

A large spreading tree, found wild or cultivated in most parts of India; grows in the Sub-Himalayan tract from the Indus eastward, in Bengal, Burma, and Central and South India.

Sapwood large, white; heartwood dark-brown, hard, shining, mottled, with deeper coloured longitudinal streaks. The annual rings in trees grown in the Punjab are marked by a distinct line. Weight 40 to 60 lbs. per cubic foot. It seasons, works and polishes well, and is fairly durable.

It is used for sugarcane crushers, oil-mills, furniture, well curbs and wheel-work; in South India for boats. In the Andamans, where trees of large size are procurable, it is used for building, but more usually for house-posts. It is often grown as an avenue tree, but its roots do not penetrate very deep. It grows easily from cuttings.

P 1193, Madhopur, Punjab	lbs.	47
P 96, Bhajji, Sutlej Valley, 3,000 feet		43
P 881, Multān		49
P 468, Ajmere		55
W 728, South Kanara		41
W 748, " "		51
W 751, " "		44
B 1453, Prome, Burma		48
B 2208, Andaman Islands		43
No. 81, Ceylon Collection (marked <i>Acacia speciosa</i> )		41
C 356, Khurdha Forests, Orissa		41
C 3567, " " "		51

## ALBIZZIA

**Albizzia lucida, Benth.**

**Syn.**—*MIMOSA LUCIDA*, Roxb. (*Fl. Ind.*, ii, 544.)

**Vern.**—*Sil koroi*, BENG.; *Tapria-siris*, NEPAL; *Ngræm*, LEPCHA; *Messguch*, ASS.; *Gunhi*, MAGH; *Thanthat*, BURM.

A large deciduous tree, met with in Eastern Bengal and Burma.

Heartwood hard, brown, with dark streaks and alternating dark and light coloured, concentric bands. Weight average 50 lbs. per cubic foot. It is hard and good, but not used.

		lbs.
E 660.	Bamunpokri, Darjeeling Terai	55
E 677.	" " "	61

**A. odoratissima, Benth.**

**Syn.**—*MIMOSA ODORATISSIMA*, Roxb. (*Fl. Ind.*, ii, 546.)

**Vern.**—*Lasrin*, karmbru, polach, PB.; *Siris*, *siran*, *bhanir*, *bersa*, *bās*, *bassein*, *bansa*, HIND.; *Chichwa*, *chichola*, *yerjoohetta*, GOND; *Chichora*, KURKU; *Tinia*, URIYA; *Pandrai*, KOL; *Garso*, KHARWAR; *Laokri*, MECHI; *Kali harrer*, PANCH MEHALS; *Tedong*, LEPCHA; *Jati-koroi*, ASS; *Koroi*, CACHAR; *Ral-thuringi*, *kar vaghe*, *bilwara*, *solomanim*, *sela vanjai*, TAM.; *Shinduga*, *chindu*, *telsu*, *yerruchinta*, *karu vage*, TEL.; *Pullibaghi*, *billawar*, KAN.; *Borhi*, *chichua*, *chichada*, MAR.; *Siras*, BOMB.; *Hore maga*, CING.; *Thitmagyi*, BURM.

A large deciduous tree, met with in the Sub-Himalayan tract from the Indus eastwards, ascending to 3,000 feet, in Bengal, Burma, and Central and South India.

Sapwood large, white; heartwood dark-brown with darker streaks; very hard. Dark, narrow, concentric bands (annual rings?), alternating with bands of lighter colour. It seasons, works and polishes well, and is fairly durable. Weight 42 to 60 lbs. per cubic foot.

It is used for wheels, oil-mills and furniture.

		lbs.
P 3223.	Nagpahar Forests, Ajmere	...
O 205.	Garhwal (1868)	43
O 219.	" "	...
C 184.	Mandla, Central Provinces (1870)	...
C 1122.	Ahiri Reserve, Central Provinces	60
C 2748.	Moharli Reserve, Central Provinces	...
E 2360.	Bamunpokri, Darjeeling Terai	59
W 725.	South Kanara	59
W 1189.	" "	42
D 1084.	North Arcot	52
B 290.	Burma (1867)	53
B 3121.	" (1862)	57
B 1427.	" "	57
B 2231.	Andamans (1866)	56
No. 8.	Salem Collection	52

**A. procera, Benth.**

**Syn.**—*MIMOSA ELATA*, Roxb. (*Fl. Ind.*, ii, 546.)

**Vern.**—*Safed siris*, *gurav*, *karra*, *karo*, *karanji*, *gurbari*, *gurbār*, *baro*, *karolu*, *garso*, HIND.; *Karallu*, *kini*, *kinai kilai*, *kili*, *tihiri*, BOM.; *Sitto siris*, NEPAL; *Takmur*, LEPCHA; *Koroi*, BENG.; ASS.; *Kili*, GARO; *Sarapatru*, URIYA; *Passerginni*, GOND; *Kinni*, BHIL.; *Gurar*, MAR.; *Konda vaghe*, TAM.; *Pedda patseru*, *tella sopara*, *tella*, *chindagu*, TEL.; *Chikul*, KAN.; *Choi*, MAGH.; *Seet*, BURM.; *Burdā*, AND.

A large, deciduous, fast-growing tree found in the Sub-Himalayan tract from the Jumna eastwards, in Bengal, Satpura Range, in the Central Provinces, Guzerat, South India and Burma.

## ALBIZZIA.

Sapwood large, yellowish-white, not durable; heartwood hard, brown, shining, with alternate belts of darker and lighter colour. The wood is straight and even-grained, seasons well, and the heartwood is durable. Weight 26 to 60 lbs. per cubic foot.

It is used for sugarcane crushers, rice-pounders, wheels, agricultural implements, bridges and house posts. It is used by tea-planters for stakes for laying out tea-gardens, as it is found to split well, and occasionally for tea-boxes and for charcoal, for which it is found to be very good.

		lbs.
O 220.	Garhwal (1868)	41
O 3004.	" (1873)	44
C 2746.	Jamui Forest, Berar (sapwood)	26
E 2361.	Bamunpokri, Darjeeling Terai	37
E 949.	Eastern Dúars, Assam	51
E 1263.	Tezpur, Assam	58
E 2194.	Nowgong, Assam	42
E 1955.	Chittagong	43
B 329.	Burma (1867)	39
B 811.	"	60
B 2527.	" (1862)	41
B 506.	Andaman Islands	53
B 518.	" "	46
B 2247.	" " (1866)	41

## 51 Albizzia stipulata, Boivin.

Syn.—MIMOSA STIPULACEA, Roxb. (Fl., Ind., ii, 549.)

Vern.—Oë, oi, sirin, shirsha, kasir, PB.; Siran, kanujera, pattia, sam-sundra, HIND.; Chapün, kerí serum, KÖL.; Bunsobri, MECH.; Kala siris, NEPAL; Singriang, LEPCHA; Sow, ASS.; Selcho, GARO; Chakua, amluki, BENG.; Kat turanji, TAM.; Konda chiragu, chindaga, TEL.; Udala, BOMB.; Kal baghi, hote baghi, KAN.; Kabal, CINGH.; Pokoh, MAGH.; Boomai-sa, BURM.

A large, deciduous, fast-growing tree, met with in the Sub-Himalayan tract from the Indus eastwards, ascending to 4,000 feet; in Oudh, Bengal, Burma, and South India.

Sapwood large, white; heartwood brown, generally not durable, soft, shining. Weight 25 to 45 lbs. per cubic foot.

It is said by Beddome, probably quoting Skinner, to be used for building and for naves of wheels. Kurz says it is good for cabinet work, furniture and similar purposes. Brandis' *Burma List*, 1862, No. 27, says it is prized for cart-wheels and for the bells of cattle. In Bengal it has been tried for tea-boxes, for which purpose it will probably suit well; also for charcoal. Said to be much in use in South Kanara.

		lbs.
H 603.	Kangra, Punjab	29
O 217.	Garhwal (1868)	28
C 2089.	Jubbulpore, Central Provinces (1863)	39
E 647.	Bamunpokri, Darjeeling Terai	26
E 2362.	" "	29
E 788.	Kamrup, Assam	40
E 1956.	Chittagong	25
B 809.	Burma	36
B 2528.	" (1866)	33
B 2221.	Andaman Islands (1866)	45

# ALLOPHYLLUS.

**Allophyllus Cobbe, Bl., SAPINDACEÆ.**

**Syn.**—ORNITROPHE COBBE, Willd. (Roxb. Fl., Ind., ii, 268); SCHMIDELIA (COBBE) Beddome, lxxiii.

**Vern.**—Thaukjo, BURM.

A deciduous shrub of Eastern Bengal, South India, Burma and the Andaman Islands.

• Wood grey, soft.

B 1988. Andaman Islands (Kurz, 1866)

lbs.  
40

# ALNUS.

**Alnus nepalensis, D. Don., BETULACEÆ.**

THE NEPAL ALDER.

• **Vern.**—Kohi, PB.; Udesb, KUMAUN; Udis, utis, NEPAL; Kowal, LEPCHA.

A large and tall, sparsely-branched, deciduous tree, whose leaves soon become completely perforated by insects. It occurs from the Kavi eastward, between 3,000 and 9,000 feet in altitude, to the Khásia and Naga Hills.

Wood similar to that of *A. nitida*, but the pores are fewer and somewhat larger, and the broad medullary rays are very broad and very numerous.

It is used for tea-boxes in Darjeeling.

H 83.	The Glen, Simla, 6,000 feet	lbs.
E 356.	Tukdah Forest, Darjeeling, 5,000 feet	28
E 2406.	" " " " "	27
		...

**A. nitida, Endl.**

**Vern.**—Shrol, saroli, sawáli, rikunra, chám, piák, kúnsa, mú, kosh, chapu, rajan, kúndash, PB.; Paya, udesb, KUMAUN.; Gira, AFG.

A large tree, met with in the Punjab Himalaya, ascending to 9,000 feet.

Wood reddish-white, soft, close and even-grained, tough to cut; annual rings distinctly marked by harder wood near the inner edge of each ring.

It is used for bedsteads and for the hooked sticks of rope bridges.

H 119.	Vaziri Rupi, 6,000 feet	lbs.
H 147.	Sainj, Simla, 4,000 feet	28
		31

# ALSEODAPHNE.

**Alseodaphne, Sp. LAURACEÆ.**

**Vern.**—Dowki poma, ASS.

• A tree met with in Assam.

• Wood soft, red, even-grained. Used for boats, furniture and building.

E. 633.	Eastern Dúars, Assam	lbs.
		32

ALSEODAPHNE.

52

53

54

55

## AMOORA.

## ALSTONIA.

56

*Alstonia scholaris*, R. Br., APOCYNACEÆ.

Vern.—*Chatwan*, *chatinn*, BENG.; *Satiún*, *chatiún*, *satwín*, *satní*, HIND.; *Chhátinia*, SONTAL and MAL. (S. P.); *Chatin*, *bomudu*, KOL; *Chhattiara*, URIYA; *Chatiwan*, NEPAL; *Purbo*, LEPCHA; *Satiana*, ASS.; *Satwin*, MAR.; *Sattni*, CACHAR; *Paía*, *modrase*, TAM.; *Eda-kula*, *pala garuda*, TEL.; *Mukampala*, MAL.; *Janthalla*, KAN; *Rookattana*, CINGH.; *Chaile*, *chalain*, MAGH; *Let-top*, *loungmayobeng*, BURM.

A tall evergreen tree, found in the Sub-Himalayan tract from the Jumna eastwards, ascending to 3,000 feet, in Bengal, Burma, and South India.

Wood white, soft, even-grained, seasons badly, and soon gets mouldy and discoloured. It is not durable, but is easily worked. Weight about 28 lbs. per cubic foot.

It is used for boxes, furniture, scabbards, coffins and other purposes, and is made into blackboards in Burma. It is used occasionally in Darjeeling, Assam and Cachar for tea-boxes.

	lbs.
E 577. Khookloong Forest, Darjeeling Terai . . . . .	28
E 718. Chittagong . . . . .	28
E 270. Lakhimpur, Assam . . . . .	31
W 863. South Kanara . . . . .	28
No. 75. Ceylon Collection . . . . .	26

## ALTINGIA.

57

*Altingia excelsa*, Noronha, HAMAMELIDÆÆ.

Vern.—*Jutili*, ASS.; *Nantayop*, BURM.

A lofty deciduous tree, met with in Assam and Tenasserim.

Wood soft, reddish-grey with lighter streaks. Annual rings marked by a narrow belt of firm wood without pores. Weight 46 lbs. per cubic foot.

Used in Assam for building and ordinary domestic purposes.

	lbs.
E 1269. Lakhimpur, Assam . . . . .	46
B 2704. Brought from Tavoy by Dr. Wallich in 1828. . . . .	48
„ Resembles this in structure . . . . .	48

## AMOORA.

58

*Amoora cucullata*, Roxb. MELIACEÆ.

Syn.—ANDERSONIA CUCULLATA, Roxb. (*Fl. Ind.*, ii, 212).

Vern.—*Amúr*, *latmí*, *natmí*, BENG.; *Thitnee*, BURM.

A moderate sized evergreen tree, met with in the coasts of Bengal and Burma.

Wood red, hard, close-grained, but apt to split. Weight 44 lbs. per cubic foot.

Used for posts and other purposes in Lower Bengal, and for firewood in the Sundarbans.

	lbs.
E 414. Sundarbans . . . . .	44
E 3697. Sundarbans (1882) . . . . .	47

## ANACARDIUM.

**Amoora decandra, Hiern.**Vern.—*Tangaruk*, LEPCHA.

A tree found in the Eastern Himalaya, from 2,000 to 6,000 feet.

Wood pinkish-white, hard.

E 3392. Lebong, Darjeeling, 5,500 feet.

**A. Rohituka, W. and A.**Syn.—ANDERSONIA ROHITUKA, Roxb. (*Fl. Ind.*, ii, 213).Vern.—*Rohituka*, SANS.; *Harin harra*, *harin khana*, HIND.; *Sikru*, KOL.; *Sohaga*, OUDH; *Tikta-raj*, *pitraj*, BENG.; *Bandriphal*, NEPAL.; *Tangaruk*, LEPCHA; *Lota amari*, *amora amari*, ASS.; *Okhioungsa*, *okhyag*, MAGH.; *Chem-maram*, MAL.; *Thitnee*, BURM.

An evergreen tree met with in Oudh, Assam, Northern and Eastern Bengal, Western Ghâts, and Burma.

Wood reddish, close and even-grained, hard. The concentric bands in this species are remarkable, as they are absent from the two other species. Average weight 40.5 lbs. per cubic foot.

• Good, but little used. In Chittagong canoes are sometimes made of it,

	lbs.
O 1362. Gonda, Oudh . . . . .	42
E 2331. Mangwa, Darjeeling, 6,000 feet . . . . .	36
E 1261. Tezpur, Assam . . . . .	39
E 711. Chittagong . . . . .	45

**A. spectabilis, Miq.**Vern.—*Amari*, ASS.

An evergreen tree, found in the Eastern moist zone, in Assam and Burma.

Wood red, hard, close-grained; durable, and takes a good polish. Weight 48 lbs. per cubic foot.

Used for boat-building and furniture in Assam.

	lbs.
E 1255. Tezpur, Assam . . . . .	49
E 2192. Nowgong, Assam . . . . .	48

## ANACARDIUM.

**Anacardium occidentale, Linn., ANACARDIACEÆ.**

CASHEW NUT.

Vern.—*Hijli-badam*, BENG.; *Kajú*, HIND.; *Mundiri*, *kottai*, *kolamava*, TAM.; *Yidi mamidi*, TEL.; *Yidi*, *kempu géru*, KAN.; *Thee-noh thayet*, BURM.

A tree, 30 to 40 feet; originally introduced from South America, now established in the coast forests of India, Chittagong, Tenasserim, and the Andaman Islands, and over South India.

Wood red, moderately hard, close-grained. Weight 38 lbs. per cubic foot.

• Used for packing cases in Burma, for boat-building and charcoal.

	lbs.
B 2227 . . . . .	38
B 2229. Andamans (1866) . . . . .	39
2 . . . . .	19

ANOGES.  
AM SUS.

## ANDRACHNE.

63 *Andrachne cordifolia*, Müll., Arg., EUPHORBIACEÆ.

Vern.—*Kákní, gúrgúli*, JHELAM; *Bersu*, CHENAB; *Barotri, madare*, RAVI; *Mútkar, chirmútti, pin*, BEAS; *Tsátin*, SUTLEJ.

A small shrub, met with in North-West Himalaya, from the Indus to Nepal, ascending to 8,000 feet.

Wood white, moderately hard, close-grained. Weight 45 lbs. per cubic foot.

H 2945. Jander, Sutlej Valley, 3,500 feet . . . 45 lbs.

## ANISOPHYLLEA.

64 *Anisophyllea zeylanica*, Benth., RHISOPHOREÆ.

Vern.—*Wellipyanne*, CINGH.

A tree of the southern and central parts of Ceylon ascending 1,500 feet.

Wood greyish-brown, moderately hard.

No. 96. Ceylon Collection . . . 35 lbs.

## ANOGEISSUS.

65 *Anogeissus acuminata*, Wall., COMBRETACEÆ.

Syn.—*CONOCARPUS ACUMINATA*, Roxb.

Vern.—*Chakwa*, BENG.; *Gara hesel, pandri, pansi*, KOL; *Panchi, pasi*, URIYA; *Numma*, TAM; *Pachi manu, panchman, paunchinan, bucha karum, pashi, pansi*, TEL.; *Phás*, MAR.; *Saikamehhia, thekri napay*, MAGH; *Yung, sehoong*, ARRACAN; *Yungben*, BURM.; *Phassi*, MAR.

A large, deciduous tree, met with in some districts of Bengal, Orissa, South India, Chittagong, and Burma.

Wood grey, sometimes yellowish-grey with a greenish tinge, shining, in structure moderately hard, resembling that of *Anogeissus latifolia*. It warps and cracks in seasoning, and is not very durable, especially where exposed to water. Weight 57 lbs. per cubic foot.

Used in Burma and in Madras for building. Roxburgh says it is durable if kept dry, but soon decays if exposed to wet.

C 1143. Ahiri Reserve, Central Provinces . . . 57 lbs.

B 3214. Burma (1862) . . . ...

B 3095. Promé, Burma . . . ...

The Central Provinces and Burma woods correspond exactly in structure.

C 3462. Saranda forests, Chutia Nagpur . . . ... bs.

66 *A. latifolia*, Wall.

Syn.—*CONOCARPUS LATIFOLIA*, Roxb. (*Fl. Ind.*, ii., 442.)

Vern.—*Dhaura, dhauri, dhau, dhawa, dhauta, dohu, bakla, bakli*, HIND.; *Góla, goldia, dhaukra, dhokri, dau*, RAJ.; *Khardhawa*, BANDA; *Vellay naga, namme, verkali*, TAM.; *Chiriman, sheriman, yella-ma, tirman, yella maddi*, TEL.; *Dohu, dhobu*, URIYA; *Hesel, KOL*. and *Sonthal*; *Dhau*, MAL. (S.P.); *Dháori, dhamora, dhaunda, dandua, dhavada*, MAR.; *Dinduga, dindlu, bejalu, dindal*, KAN.; *Arma, yerina*, GOND.; *Dhawa*, BAIGAS; *Dhaundak*, BHIL; *Dhaura*, KURKU; *Daawoo*, CINGH.

A large tree, met with in the Sub-Himalayan tract from the Ravi eastwards, ascending to 3,000 feet, in Central and South India.

## ANONA.

Wood grey, hard, shining, smooth, with a small purplish-brown, irregularly shaped, extremely hard heartwood. Sapwood in young trees and branches yellow. Annual rings marked by darker lines. Weight about 65 lbs. per cubic foot.

It is highly valued on account of its great strength and toughness, but it splits in seasoning and unless kept dry is not very durable.

It is used for axe handles, poles for carrying loads, axles, in the construction of furniture, agricultural implements, and in ship-building. It has been recommended for sleepers. Out of 18 sleepers which had lain seven to eight years on the Mysore State Railway there were found, when taken up, four good, ten still serviceable, and four bad. It gives a good fuel and an excellent charcoal.

		lbs.
P 446.	Ajmere . . . . .	...
O 233.	Garhwal (1868) . . . . .	68
O 2997.	" (1874) . . . . .	64
O 531.	Dehra Dún . . . . .	62
O 394.	Oudh . . . . .	62
C 2776.	Melghát, Berar . . . . .	59
C 190.	Mandla, Central Provinces (1870) . . . . .	58
C 1121.	Ahiri Reserve, Central Provinces . . . . .	65
C 2744.	Moharli Reserve, Central Provinces . . . . .	55
C 1244.	Gumsúr, Madras . . . . .	66
D 1282.	Annamalai Hills, Madras . . . . .	56
No. 21.	Salem Collection . . . . .	69
C 3562.	Khurdha forests, Orissa . . . . .	62
C 3684.	Palamow, Chutia Nagpore (1882) . . . . .	56

**Anogeissus pendula, Edgw.**

**Syn.**—CONOCARPUS MYRTIFOLIA, Wall.

**Vern.**—*Dhau, dhaukra, kala dhaukra*, MEYWAR; *Kardahi*, HIND.

A small gregarious tree with pendulous branches, found in the arid and northern dry zones of Rajputana, Malwa plateau, as far as the Nerbudda, in Nimar, Mandla District, and on the Nerbudda (?)

Wood hard, yellowish-white, with a small, irregular, blackish-purple heartwood. Weight 59 lbs. per cubic foot.

It coppices well, but the wood is not in general use.

P 454. Ajmere.

## ANONA.

**Anona reticulata, Linn., ANONACEÆ.**

THE BULLOCK'S HEART.

**Vern.**—*Nona*, BENG.; *Ramaphala*, BOMB.; *Ramsita*, TAM.

A small tree, common everywhere; wild apparently in some districts, but chiefly met with in cultivation.

Skinner, No. 14, gives 40 lbs. as the weight per cubic foot.

**A. squamosa, Linn.**

CUSTARD APPLE.

**Vern.**—*Sharifa, sitaphal*, HIND.; *Ata, lúna*, BENG.; *Mondalkon*, SONTHAL; *Sirpha*, MAL.; *Sita*, TAM.; *Sitapundu*, TEL.; *Atta*, MAL., CINGH.; *Ausa*, BURM.

A small tree, the Sweet-sop of the West Indies, naturalised in Bengal, the North-West Provinces and Burma.

68

69



## ANTIDESMA.

Wood soft, close-grained. Weight 46 lbs. per cubic foot.

B 2317. Myanourg, Burma . . . . . lbs.  
46

## ANTHOCEPHALUS.

## 70 Anthocephalus Cadamba, Blh. and Hook. f., RUBIACEÆ.

Syn.—NAUCLEA CADAMBA, Roxb. (Fl. Ind., i, 512; Beddome, t, 35); SARCOCEPHALUS CADAMBA (Kurs, ii, 63.)

Vern.—Kaddam, karam, HIND., BENG.; Bol-kadam, CHITTAGONG; Saiko, KÔL.; Pandûr, LEPCHA; Kodum, MECHI; Roghu, ASS.; Kadambo, URIYA; Vella cadamba, TAM.; Kadambe, rudrak-shamba, TEL.; Heltega arsanatega, MYSORE; Kadam, MAR.; Kadda vailu, kadaga, kadwal, KAN.; Halamba, CINGH.; Maoo, sanyepang, MAGH; Maoo, maooka-doon, BURM.

A large deciduous tree, wild in Northern and Eastern Bengal, Pegu and the Western Coast; cultivated in Northern India.

Wood white, with a yellowish tinge, soft, even-grained. Weight about 40 lbs. per cubic foot.

It is used for building; in Assam, Cachar and occasionally in Darjeeling for tea-boxes. Cunningham (1854) says that it is used for beams and rafters on account of its cheapness and lightness, and that it is good for joiner's work, but that it is a brittle wood.

E 650.	Rakti Forest, Darjeeling Terai	lbs.
E 3153.	Papkabari, Darjeeling (damp)	40
E 3144.	Julpigori, Bengal	50
E 1435.	Assam	40
B 2535.	Burma (1862)	32
E 3280.		32

## ANTIDESMA.

## 71 Antidesma Bunias, Spreng., EUPHORBIACEÆ.

Vern.—Himal cheri, NEPAL; Kantjer, LEPCHA.

A small tree of North and East Bengal, South India, and Tenasserim. E 2430. Chenga Forest, Darjeeling Terai. Weight 46 lbs.

## 72 A. diandrum, Tulasne.

Syn.—STILAGO DIANDRA, Roxb.

Vern.—Amli, amari, sarshoti, gér-mussureya, ban-mussureya, dhakki, HIND.; Multa, BENG.; Mata, ara, SONTHAL; Amtua sag, MAL. (S. P.)

A small tree formed in Garhwal, Kumaun, Oudh, Bengal, South India and Burma; common in the hill forests of the Sonthal Pergunnahs.

Wood pinkish-grey, hard, close-grained. Weight 41 lbs. per cubic foot.

O 1308.	Gonda, Oudh	lbs.
O 1464.	Baraich, Oudh	42
		40

## 73 A. Ghæsembilla, Gaertn.

Syn.—A. PUBESCENS, Willd., and A. PANICULATUM, Roxb. (Fl. Ind., iii, 769, 770.)

Vern.—Khûdi jamb, limtoâ, BENG.; Umtoâ, HAZARIBAGH; mata sure, KOL.; Pulsur, polari, jana-pa-laseru, pollai, TEL.; Jondri, MAR.; Byaisin, BURM.; Boo-ambilla, CINGH.

A small deciduous tree, met with in Nepal, Oudh, Bengal, Burma, Chanda district, and South India.

## AQUILARIA.

Wood red, with darker coloured heartwood, smooth, hard, close and even-grained. Weight 49 lbs. per cubic foot.

G 1161.	Ahiri Reserve, Central Provinces	lbs.	46
B 2246.	Andaman Islands (1866)	lbs.	52

**Antidesma Menasu, Müll. Arg.**

Vern.—*Kumbyung, tungcher*, LEPCHA; *Kin-pa-lin*, BURM.

A small tree, found in Sikkim, Khasia Hills, Burma and the Andaman Islands.

Wood red, structure similar to that of *A. Ghazembilla*, but the pores smaller and the medullary rays finer. Weight 52 lbs. per cubic foot.

E 2431.	Chenga Forest, Darjeeling	lbs.	52
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## APOROSA.

**Aporosa dioica, Mull. Arg., EUPHORBACEÆ.**

Syn.—*A. ROXBURGHII*, Baill; *ALNUS DIOICA*, Roxb.; *LEPIDOSTACHYS ROXBURGHII*; Wall.

Vern.—*Kokra*, BENG.; *Sanpau*, GARO; *Tayprengjan*, MAGH.

A tree of North and East Bengal and Burma.

This tree has by botanists been identified as the same which yields in the West Indies the Coco-wood of commerce. The Indian plant should be carefully examined to ascertain if the wood obtained from it is of equally good quality with that obtained from the West Indies. A specimen of commercial Coco-wood bears the number 2925. It is a dark-brown, very hard, close-grained wood with white sapwood weighing 79 lbs. per cubic foot.

## AQUILARIA.

**Aquilaria Agallocha, Roxb., THYMELÆACEÆ.**

CALAMBAC, AGALLOCHUM OR ALOE-WOOD OR EAGLE-WOOD.

Vern.—*Ugur, agar*, HIND., BENG.; *Ayaloogi, ayuloogin, yellanjooi*, ARAB.; *Ayaloor-chee, oud, oud-hindee*, PERS.; *Hindiagara*, BOMB.; *Sasi*, ASS.; *Akyau*, BURM.; *Kayu, garu*, MALAY; *Nwahmi*, SIAM; *Nyaw-chah*, CHINESE; *Kihay, sinnah*, CINGH.

A large evergreen tree of Sylhet and Tenasserim; distributed to the Malay Peninsula and Archipelago.

Wood white, soft, even-grained, scented when fresh cut. Weight about 25 lbs. per cubic foot. In the interior of old trees are found irregular masses of harder and darker coloured wood, which constitute the famous Eagle-wood of commerce, called *Kaya garu* by the Malays, and *Akyau* by the Burmese. (*Ugurú Sans.*)

It appears that the *Akyau* is the most important forest produce of the forests of South Tenasserim and the Mergui Archipelago. It is found in fragments of various shapes and sizes in the centre of the tree and usually, if not always, where some former injury has been received. To collect it the trees are felled and allowed to rot for about three years in the forest, when they are again visited, the tree cut into fragments, and the odoriferous wood cut out. Mr. Lee says that most usually the *Akyau* is found in the sapwood.

E 951.	Golaghat, Assam	lbs.	24
B 1948.	Tavoy	lbs.	23
B 2485	"	lbs.	29

## ARECA.

## ARAUCARIA.

*Araucaria Cunninghamii*, Ait.

A large and handsome evergreen tree of Australia (Queensland), occasionally planted for ornament in Calcutta.

Wood soft, light yellow, perishable.

E 3720. From a tree blown down in 1881 in the R. B. Gardens, Calcutta.

## ARDISIA.

77 *Ardisia crispa*, DC., MYRSINÆ.

Syn.—*A. CRENULATA*, Vent.

Vern.—*Chamlani*, NEPAL; *Denyok*, LEPCHA.

A small erect shrub, met with in Eastern Himalaya, from 4,000 to 8,000 feet, and at Martaban at similar elevations.

Wood white, moderately hard. Very common undergrowth in the hill forests.

E 3315. Pugraingbong, Darjeeling, 6,000 feet.

78 *A. humilis*, Vahl.

Syn.—*A. SOLANACEA*, Roxb. (in Gamble, Willd.)

Vern.—*Banjari*, BENG.; *Bisi*, MAL. (S. P.); *Kudna*, URIVA; *Conda-mayur*, TEL.; *Kantena*, mayarawa, C. P.; *Bodina gidda*, MYSORE; *Gyengmaope*, BURM.

A small shrub met with throughout India ascending to altitude 5,000 feet.

Wood grey, moderately hard.

C 3463. Bandgaon Ghât, Chutia Nagpur.

79 *A. involucrata*, Kurz.

Vern.—*Denyok*, LEPCHA.

A small shrub, 3 to 6 feet, with yellow corky bark, altitude 2,000 to 5,000 feet, in Sikkim.

Wood pinkish-white with small scanty pores and broad white wavy medullary rays.

E 3350. Sivoke Hills, Darjeeling (1,500 feet.)

80 *A. paniculata*, Roxb.

A small tree of the Khasia Hills and of Chittagong with handsome pink flowers. The bark is thin, greyish-brown, and the wood pinkish white, with small pores radially disposed between the short, broad, wavy medullary rays.

E 3367. Kasalong Reserve, Chittagong.

## ARECA.

81 *Areca Catechu*, Linn., PALMÆ.

THE ARECA NUT OR BETEL PALM.

Vern.—*Supari*, HIND.; *Gua*, BENG.; *Poka*, oka, vaka, TEL.; *Camugu*, paku, TAM.; *Adike*, KAN.; *Supari*, BOM.; *Adaka*, cavugu, MAL.; *Puwak*, CINGH.; *Kwam-thee-beng*, BURM.; *Ah-bud-dah*, ah-pur-rud-dah, AND.

Cultivated throughout Tropical India.

One of the most elegant of Indian palms, with a thin straight stem

## ARTOCARPUS.

and crown of leaves like arrows stuck in the ground. The spathe which covers the flowering axis may be used for paper-making.

A tall tree, attaining 100 feet in height, with a slender, cylindrical, annulate stem, the inner part of which is generally hollow. Vascular bundles brown, forming a hard rind on the outside of the stem. Weight 57 lbs. per cubic foot.

Used for furniture trenails, bows, spear handles, and for scaffolding poles in Ceylon.

		lbs.
E	419. Sundarbans . . . . .	...
W	769. South Kanara . . . . .	...
No.	73. Ceylon Collection . . . . .	57

**Areca gracilis, Roxb.**

Syn.—PINANGA GRACILIS, Kunt.

Vern.—*Gua supari, ramgua*, BENG.; *Khur*, LEPCHA; *Ranga*, ASS.

A slender-stemmed palm, often gregarious, found in undergrowths of damp forests in Sikkim, Assam, Eastern Bengal and Burma.

It is used for native huts and roofing in Assam. The outer portion is hard and closely packed in fibro-vascular bundles; the inner is soft as the cane shrinks in drying.

E. 3425. Dalingkote, British Bhutan.

**ARGYREIA.****Argyrea speciosa, Sweet, CONVOLVULACEÆ.**

THE ELEPHANT CREEPER.

Syn.—LETTISOMIA NERVOSA, Roxb. (*Fl. Ind. i. 488*).

Vern.—*Samudra soka*, BOM.

An extensive climber, found from Assam to Belgaum and Mysore, frequent in Bengal.

Stems stout, white-tomentose.

**ARTEMISIA.****Artemisia vulgaris, Linn., COMPOSITÆ.**

WORMWOOD, FLEABANE.

Vern.—*Naga, naga-dona, dona*, HIND., BENG.; *Titapat*, NEPAL.

A gregarious shrub, coming up on old cultivations between 3,000 and 6,000 feet in the Sikkim Hills, and often covering large tracts of land until killed down by the tree growth which succeeds it.

Wood grey, hard.

Its ashes when burnt are considered to give a good manure for cultivation.

E 2857. Tukdah Forest, Darjeeling, 5,000 feet.

**ARTOCARPUS.****Artocarpus Chaplasha, Roxb. (Fl. Ind., iii, 525.) URTICACEÆ.**

Vern.—*Chaplash, chaplis*, BENG.; *Lut-ter*, NEPAL.; *Chram*, GARO.; *Sam*, ASS.; *Cham*, CACHAR.; *Pani, toponi*, MAGH.; *Toungpeingnai*, BURM.; *Kaita-da*, AND.

A lofty deciduous tree, met with in Eastern Bengal, Burma and the Andaman Islands.

ARTOCAR-  
PUS.

Wood yellow to brown, moderately hard, even-grained, rough, durable, seasons well. It seems to get harder and heavier as it gets older; two specimens from the Andaman Islands cut in 1866 and stored since then in Calcutta give respectively 46 and 52 lbs., and Skinner gives 63 lbs., but this is probably a mistake.

It is much used for canoes; in Sikkim and Assam for planking, tea-boxes and furniture.

		lbs.
E 587.	Khook Joong Forest, Darjeeling Terai (young)	30
E 629.	Eastern Dúars, Assam	32
E 2301.	Kámrúp, Assam	33
E 2186.	Nowgong "	35
E 721.	Chittagong	33
B 2554.	Burma (1862)	39
B 2693.	Tavoy (Wallich, 1828)	37
B 2683.	" ( " " )	32
B 2204.	Andaman Islands, (1866)	52
B 2211.	" " "	33
B 2289.	" " "	46
B 512.	" " "	34
B 2499.	" " (Home, 1874, Nos. 4 and 5)	31 48

86 *Artocarpus hirsuta*, Lamk.

Vern.—*Ayni, anjalli, aiyanepela*, TAM.; *Aini, ansjenti*, MAL.; *Hebalsu, heb, halasu, hesswa, hessain*, KAN.; *Hebalsu, pat-phanas, ran-phanas*, MAR.

A lofty evergreen tree of the forests of the Western Ghâts, ascending to 4,000 feet.

Wood hard to very hard, yellowish-brown, durable, seasons well. Weight about 35 lbs. per cubic foot.

Much used on the western coast for house and ship building, furniture and other purposes.

		lbs.
D 1090.	Madura, Madras	32
W 1219.	North Kanara	31
W 744.	South "	39
W 758.	" "	41

This last specimen differs by having very short, moderately broad, medullary rays and pores in irregular patches of soft texture; it may possibly be *A. Lakoocha*.

W. 1208. South Kanara (saplings.)

87 *A. incisa*, Linn.

The bread fruit tree of the South Sea Islands; cultivated in South India, Ceylon, and Burma.

88 *A. integrifolia*, Linn.

THE JACK FRUIT TREE.

Vern.—*Kanthai, kathal*, HIND., BENG.; *Kantar, Sonthal, Poros*, KOL.; *Panasa*, URIYA, TEL.; *Phandás, BOM.*; *Pilla*, TAM.; *Halsu, hebalsu, halsina*, KAN.; *Teprong, GARO*; *Peingnai*, BURM.; *Cos*, CINGH.

A large tree, cultivated throughout India, except in the northernmost part. Wild in the mountain forests of the Western Ghâts, ascending to 4,000 feet. (*Beddome*.)

Heartwood yellow or rich yellowish-brown, darkening on exposure, compact, even-grained, moderately hard, seasons well and takes a fine polish. Weight about 40 lbs. per cubic foot.

ARUN  
NARI

It is largely used for carpentry, boxes and furniture, and is exported to Europe for cabinet work, turning and brush-backs.

	lbs.
E 598. Darjeeling Terai (young tree)	38
E 2444. Siliguri, Bengal	41
W 756. South Kanara	43
B 806. Tharrawaddi, Burma	30
No. 9. Salem Collection	42
No. 16. Ceylon	44

## Artocarpus Lakoocha, Roxb.

89

Vern.—*Tián, dheu, daheo*, PB.; *Dahu, dhau, barhal, lakúch*, HIND.; *Lovi, BOM.*; *Dháo, KUMAUN*; *Dephúl, dehua*, BENG.; *Dao, SONTAL, KOL.*; *Dowa, chama, chamba*, ASS.; *Dawa, CACHAR*; *Barrúr, NEPAL*; *Kamma regu, laku-chamma, nakka-renu*, TER.; *Myouklouk, BURM.*; *Cauna-gona, CINGH.*

A large tree met with in the outer Hills of Kumaun, Sikkin, Eastern Bengal, Burma, and in the evergreen forests of the Western Ghâts and Ceylon.

Sapwood large, white, soft, perishable. Heartwood yellow, hard. It seasons well, takes a good polish. Weight 30 to 50 lbs. per cubic foot. Used for furniture and canoes.

	lbs.
E 2445. Siliguri, Bengal	48
E 794. Kamrúp, Assam	36
E 1402. Chittagong	43
W 740. South Kanara	47
B 810. Rangoon Division, Burma	30
B 2553. Burma (1862)	30
No. 67. Ceylon Collection (marked <i>Artocarpus</i> , sp. Vern. <i>Patta-del.</i> )	34

## A. nobilis, Thw. (Enum., 262.)

90

Vern.—*Del, aludel*, CINGH.

A large tree of Ceylon.

Heartwood shining, moderately hard; pores filled with a white substance giving the wood an elegant mottled appearance.

Used for canoes and furniture.

	lbs.
No. 2. Ceylon Collection marked <i>A. pubescens</i>	51
No. 21. " " " " "	40

## ARUNDINARIA.

## Arundinaria falcata, Nees, GRAMINEÆ.

91

HIMALAYAN BAMBOO.

Vern.—*Nirgal, nigál, ringal, nagre, narri, garri, gero*, HIND.; *Spiág, gur-wa, spikso, pitso*, KUNAWAR; *Kwei*, TIBET; *Prong, N.-W. P.*; *Titi nigala*, NEPAL; *Prongnok*, LEPCHA.

Met with from the Ravi to Bhutan, above 4,500 feet in altitude in the western, but descending nearly to the plains in the Eastern, Himalaya.

Stems 6 to 10 feet high, strong, annual; used for roofing and baskets.

H 132. Kulu.	
E 1339. } Darjeeling.	
E 3427. }	

TALAN-  
TIA.92 *Arundinaria Griffithiana*, Munro.

Met with in the Khásia Hills.

Stems 4 to 6 feet high; internodes woolly, sometimes prickly.

93 *A. Hookeriana*, Munro.Vern. *Praong, prong*, LEPCHA; *Singhan*, NEPAL.

A bamboo, with stems 12 to 15 feet in height, common about Dumsong. Has handsome glaucous green stems the nodes marked by a bluish ring. The leaves have conspicuous transverse veins.

94 *A. intermedia*, Munro.

Met with in Sikkim, from 7,000 to 8,000 feet; stem from about 6 to 8 feet.

95 *A. khasiana*, Munro.Vern.—*Namlang*, KHÁSIA.

Met with in Khásia Hills; stem from 8 to 12 feet.

96 *A. racemosa*, Munro.Vern.—*Pummoon*, LEPCHA; *Pat-hoo, maling*, NEPAL; *Myooma*, BHUTIA.  
A bamboo, 2 to 4 feet high, with bluish rough internodes, occurring in Sikkim and Nepal, above 6,000 feet.

It is extensively used for making mats, roofing, &amp;c.

E. 1351 } Darjeeling.  
E. 1354 }97 *A. Wightiana*, Nicolson.

Stem 6 to 12 feet.

## ATALANTIA.

98 *Atalantia missionis*, Oliv., RUTACEÆ.Syn.—*LIMONIA MISSIONIS*, Wall.Vern.—*Pambúrá*, CINGH.

A small tree of South India and Ceylon.

Wood yellowish-white, sometimes variegated, moderately hard, close-grained. Annual rings marked by a white line and a belt of more numerous pores. Weight 48 lbs. per cubic foot.

Used for furniture and cabinet work.

No 66 Ceylon Collection . . . . . lbs.  
4899 *A. monophylla*, Correa.Vern.—*Narguni*, URIYA; *Arawi ním*, TEL.; *Katyalu*, TAM.; *Makhur*, MAR.

A large shrub or small tree of East Bengal, South India and Ceylon.

Wood yellow, very hard and close-grained. Weight 65 lbs. per cubic foot. Numerous white concentric lines at varying distances.

Recommended by Kurz as a substitute for box-wood.

. . . . . lbs.  
10. Salem Collection . . . . . 65  
C. 3515. Khurdha forests, Orissa.

BACCA  
REA.

## AUCUBA.

**Aucuba himalaica**, Hook. f. and Th., CORNACEÆ.Vern.—*Phul amphi*, NEPAL; *Singna*, *lapathyar*, LEPCHA.

A small tree of Sikkim Himalaya, between 5,000 and 9,000 feet.

Wood black when fresh cut, becoming lighter-coloured on exposure, hard and close-grained. •Weight 55 lbs. per cubic foot.

E 2383.	Rangbúl Forest, Darjeeling,	7,000 feet	lbs.
E 3327.	Rangirúm "	6,000 "	55

## AVERRHOA.

**Averrhoa Carambola**, Linn., GERANIACEÆ.Vern.—*Karmal*, HIND.; *Kámrangá*, BENG.; *Soungyah*, BURM.; *Khamaraka*, *karamara*, BOM.; *Khamrak*, DEC.; *Tamarta*, TAM; *Karomonga*, TEL.

A small tree with sensitive leaflets, 15 to 20 feet in height; a native of Ceylon and the Moluccas, but now extensively cultivated in India for its apples, which when stewed are very palatable.

Wood light red, hard, close-grained. Weight about 40 lbs.

Home says it is used in the Sunderbans for building purposes and furniture.

## AVICENNIA.

**Avicennia officinalis**, Linn., VERBENACEÆ.Vern.—*Bani*, BENG.; *Mada*, *nalla mada*, TEL.; *Thamé*, BURM.

A shrub or small tree, met with in the Salt marshes, coast and tidal forests of India, Burma, and the Andaman Islands.

Wood grey, with a darker heartwood, hard, heavy, consisting of numerous, narrow, well marked, concentric layers. Weight 58 lbs. per cubic foot.

It is very brittle: used in India only for firewood. Major Ford says it is used for mills for husking paddy, rice-pounders, and oil-mills in the Andamans.

E 398.	Sundarbans	lbs.
B 2284.	Andaman Islands	58

## BACCAUREA.

**Baccaurea sapida**, Mull. Arg., EUPHORBIACEÆ.Syn.—*PIERARDIA SAPIDA*, Roxb. (*Fl. Ind.*, II, 254.)Vern.—*Lutco*, HIND.; *Lutqua*, CHINESE; *Kala bogoti*, NEPAL; *Latechu*, ASS.; *Koli*, *kuki*, KAN.; *Kanaso*, BURM.; *Kanaisu*, MAGHI.; *Sumbling*, LEPCHA.

A small or moderate sized evergreen tree, met with in Bengal, Burma and the Andaman Islands.

Wood greyish-brown, soft, liable to split badly. Weight about 42 lbs. per cubic foot.

100

102

103



**BAMBUSA.**

	lbs.
E 1265. Tezpur, Assam	42
B 2552. Burma (1862)	44
B 3145. ♂ Magayee, Burma	42
B 3146. ♀ " "	43
B 2686. Tavoy (Wallich, 1828)	41
B 2720. " "	41

**BALANITES.****104 Balanites Roxburghii, Planch, SIMARUBEÆ.**

**Syn.**—*XIMENIA ÆGYPTIACA*, Roxb. (*Fl. Ind.*, II, 253.)

**Vern.**—*Hingu*, *ingur* *hingol*, *hingota*, HIND.; *Garrah*, GOND; *Gari*, *ringri*, TEL.; *Nanjunda*, TAM.; *Hingan*, MAR.

A small tree of the drier parts of India and Burma.

Wood yellowish-white, moderately hard, no heartwood, no annual rings. Weight 48 lbs. per cubic foot.

It is used for walking-sticks and for fuel.

	lbs.
P. 450. Ajmere	48
C. 1171. Ahiri Reserve, Central Provinces	...

**BALSAMODENDRON.****105 Balsamodendron Mukul, Hook., BURSERACEÆ.**

GUM GUGAL.

**Vern.**—*Guggul*, *mukul*, *ranghan tarb*, BENG., HIND., and DEC.; *Gugal*, SINDI.

A small tree of the arid zones of Sind, Kattiawar, Rajputana, and Khandesh.

Wood soft, white. Weight 20 lbs. per cubic foot.

Not used.

	lbs.
P 448. Ajmere	...
P 2919. Rajputana	20
P 3238. Dewair, Ajmerc	...

**BAMBUSA.****106 Bambusa affinis, Munro, GRAMINEÆ.**

BAMBOO.

**Vern.**—*Theeshe*, *thaikwa*, BURM.

Found in Martaban and said by Munro to be scandent, by Kurz to be small and tufted, and 15 to 20 feet high.

**107 B. arundinacea, Retz. (Roxb., Fl. Ind., ii, 191.)**

BAMBOO.

**Vern.**—*Magar*, *nál*, *r*; *Bans*, *kattang*, HIND.; *Katanga*, KOL; *Wah-kanteh*, GARO; *Barua*, CHITTAGONG; *Mandgay*, BOM.; *Kati wadár*, GOND; *Mangul*, TAM.; *Vavru*, TEL.; *Bidungulu*, KAN.; *Wa-nah*, MAGH; *Kya-kat-wa*, BURM.

Inhabits Central and South India, Burma, Dehra Dun, Toungoo, and South Kanara.

## BAMBUS

Stems 70 to 90 feet, spinulose. Leaves small. This bamboo is of good quality and strong, and is used for all purposes.

O 1337. Dehra Dun.

B 1319. Burma.

W 1330. South Kanara.

**Bambusa Balcooa, Roxb.**

108

Vern.—*Balku*, BENG.; *Betwa*, CACHAR; *Bara baluka*, ASS.

A bamboo, with stems often 50 to 70 feet in height. This is the best Bengal species for building and scaffolding. (*Gamble*.)

Common in Bengal and Assam.

E 1332, Sunderbuns.

**B. Brandisii, Munro.**

109

Syn.—*DENDROCALAMUS BRANDISII* (*Kurz*, ii, 560.)

Vern.—*Ora*, BENG.; *Turgu-wah*, MAGH; *Keyllowa, wabo*, BURM.

A gigantic species met with in Chittagong and Burma up to 4,000 feet. Stems often becoming 126 feet high and 30 inches in circumference.

E 3428. Chittagong Hill Tracts.

B 1313, 1312. Toungoo.

E 1327. Chittagong Hill Tracts.

**B. Falconeri, Munro (Brandis, 568.)**

110

Vern.—*Chye, kag*.

Found in the North-West Himalaya.

**B. Khasiana, Munro.**

111

Vern.—*Tumar*, KHÁSIA.

Met with in the Khásia Hills.

**B. nutans, Wall.**

112

Vern.—*Mahlhans*, NEPAL; *Mahlu*, LEPCHA; *Yi-shing*, BHUTEA; *Bidhúli, mukial*, ASS.; *Pichle*, SYLHET.

A most beautiful species, largely planted near villages in Nepal, Sikkim, Khasia Hills and Bhutan.

O. 1338, Dehra Dun?

**B. orientalis, Nees. (Beddome, t, cccxxi; South India.)**

113

**B. pallida, Munro.**

114

Vern.—*Burwal, bakhal*, CACHAR; *Usken*, KHÁSIA.

A bamboo with stems about 50 feet; met with in Eastern Bengal and Assam.

**B. polymorpha, Munro (Kurz, ii, 553.)**

115

Vern.—*Kya-thoungwa*, BURM.

A Burmese bamboo.

B. 1316, Toungoo.

**B. spinosa, Roxb. (Fl. Ind., ii, 198.)**

116

Vern.—*Behor*, BENG; *Koto*, ASS.; *Konkoit*, CACHAR; *Yakatwa*, BURM. (not given by Kurz, or rather united with *B. arundinacea*, probably; a view in which Brandis concurs).

A native of Bengal, Assam, and Burma.

**BASSIA.**

**117. Bambusa teres, Ham.**

A native of Bengal and Assam.

**118. B. Tulda, Roxb. (Fl. Ind., ii, 193.)**

Vern.—*Peka*, HIND.; *Tulda, jowa, mitenga, matela*, BENG.; *Peprsiman*, KOL.; *Makor*, MAL. (S. P.); *Wahghi*, GARO; *Madaewah*, MAGH.; *Thekja, thoukwa*, BURM.

The common Bamboo of Bengal and Burma. The wood is strong and the halms are used for roofing and scaffolding, mats, and innumerable other purposes.

E. 1333. Sundarbans.

E. 1328. Chittagong.

B. 1321, Toungoo.

**119. B. vulgaris, Wendl.**

Vern.—*Lulluk, wansa kalaka*, BOM.; *Una*, CINGH.

Stems 20 to 50 feet, yellow or striped yellow and green. The leaves have well-marked transverse veins. Cultivated in India.

**BARRINGTONIA.**

**120. Barringtonia acutangula, Gaertn., MYRIACEÆ.**

Vern.—*Jal, samundar phul, pannidri, ingar*, HIND.; *Jar*, MONGHYR; *Hyal, samundar*, BENG.; *Sapiung*, KOL.; *Kinjola, Kinjara*, URJA; *Hendol*, ASS.; *Kanapa, batta, kurpa, kadami*, TEL.; *Piwar*, MAR.; *Kyathka, kyainee*, BURM.

A moderate sized evergreen tree, met with in the Sub-Himalayan tract from the Jumna eastwards, in Oudh, Bengal, Central and South India and Burma.

Wood white, shining, warps in seasoning, moderately hard, even-grained, said to be durable. The radial section is beautifully mottled with the medullary rays, which appear as irregular plates. Weight 46 lbs. per cubic foot.

It is used for boat-building, well-work, carts, rice-pounders and by cabinet-makers. Beddome says the wood turns black when buried in mud.

C 1132. Ahiri Reserve, Central Provinces.	lbs.	...
B 814. Burma		46
C 3470. Saranda Forests, Chota Nagpore.		

**121. B. racemosa, Blume.**

Vern.—*Samudra, cuddapah*, TAM., MAL.; *Kyai-beng*, BURM.

A moderate sized evergreen tree found in the Western Coast, Andaman Islands and Ceylon.

Wood white, very soft, porous. Weight 27 lbs. per cubic foot. Skinner, No. 21, gives 53 lbs.

He says it is used for house and cart building, and that it has been tried for railway sleepers.

B 1993. Andaman Islands (Kurz, 1866)	lbs.	27
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**BASSIA.**

**122. Bassia butyracea, Roxb. (Fl. Ind., ii, 527.) SAPOTACEÆ.**

Vern.—*Chitra, chauri, phulel*, KUMAUN; *Cheuli*, OUDH; *Phalwara*, HIND.; *Churi*, NEPAL; *el, yel, pote*, LEPCHA.

A deciduous tree of the Sub-Himalayan tract from Kumaun to Bhutan, between 1,500 and 4,500 feet.

## BAUHINIA

Wood light-brown, hard. Annual rings marked by a dark line.  
Weight 52 lbs. per cubic foot.

E 622. Bamunpokri, Darjeeling

lbs.  
52

**Bassia latifolia, Roxb. (Fl. Ind., ii, 526.)**

123

**Vern.**—*Makwa, mowa, mahúa*, HIND.; *Makwa, mahúla, mawl*, BENG.; *Moha*, URIYA; *Mandukum*, KOL; *Mohul*, BHUMIJ and MAL. (S. P.); *Matkom*, SONTHAL; *Illupi, elupa, kat illupi*, TAM.; *Yppi, yeppa*, TEL.; *Mahu*, BAIGAS; *Irúp, irrip, irhu*, GOND; *Moku*, KURKU; *Moho*, MAR.; *Hunge*, KAN.; *Poonam*, MAL.; *Quindah* (the oil.)

A large deciduous tree, indigenous in the forests of Central India; cultivated and self-sown throughout India.

Sapwood large; heartwood reddish-brown, from hard to very hard. Annual rings indistinct.

The wood is not much used, as the tree is so prized for its flowers that it is rarely felled; it has been tried for railway sleepers in the Central Provinces, and **Beddome** says it is used for the naves of wheels, for door and window frames and panels, for furniture and country vessels.

**Mr. C. F. Manson** describes this as being the most generally useful tree of the Sonthal Pergunnahs.

	lbs.
O 266. Garhwal (1868)	60
O 1493. Kheri, Oudh	65
H 2069. Kumaun, 5,000 feet	66
C 827. Bauragarh Reserve, Berar	69
C 2771. Melghat, Berar	...
C 1116. Ahri Reserve, Central Provinces	60
C 2731. Moharh Reserve, Central Provinces (young)	52
C 1243. Gumsur, Madras	63

**B. longifolia, Willd. (Roxb., Fl. Ind., ii, 52.)**

124

**Vern.**—*Kat illupi, elupa*, TAM.; *Ippi, yeppa, pinna*, TEL.; *Hippe*, KAN.; *Ellupi*, MAL.; *Mee*, CINGH.

A large evergreen tree, met with in South India and Ceylon.

Heartwood red, moderately hard, close-grained. Weight 61 lbs. per cubic foot.

**Beddome** says it is very flexible and durable; that it is valued for ship's keels, for teneals and for planking below the water line; and that it is used for carts, furniture and bridge construction.

No. 53. Ceylon Collection

lbs.  
61

**Basket and wicker-work**, list of woody plants used for.

**BAUHINIA.**

125

**Bauhinia anguina, Roxb., LEGUMINOSÆ.**

THE SNAKE CLIMBER.

**Vern.**—*Nag-pút*, SYLIHT; *Naiwilli*, NEPAL; *Bamatungrungrik*, L.

A curious conduplicately bent climber of North and East Bengal, Chittagong, Martaban and South India.

Its bark is used in rope-making, and the wood is soft and porous. The stems are bent generally in alternate folds and with a straight thick margin.

E 482. Darjeeling Terai.

# BAUEINIA.

126 • *Bauhinia macrostachya*, Wall.

Vern.—Gunda-gilla.

An extensive climber, found in the forests of Sylhet and Assam. The bark yields a strong fibre.

127 *B. malabarica*, Roxb., (*Fl. Ind.*, ii, 321.)

**Verni.**—*Amlī, amlosa*, HIND; *Karmai*, BENG.; *Gourubati*, URIYA; *Laba*, KOL; *Amlī taki*, NEPĀL; *Kattra*, ASS.; *Cheppura*, *basavana pāda*, KAN; *Amlī*, MAR.; *Kundapula*, *dhondel*, *kangali*, GOND; *Ambotha*, *chapa*, KURKU; *Pulla*, *dondur*, *pulī shinta*, *pulhari*, TEL.; *Apta*, BERAR; *Bwayyvin*, BURM.

A moderate sized deciduous tree, met with in the Sub-Himalayan tract from the Ganges to Assam, in Bengal, Burma, and South India.

Wood light-reddish brown, with irregular masses of black or purplish wood near the centre; moderately hard. Numerous narrow wavy, white, concentric bands of softer tissue alternate with bands of harder and red-coloured wood of equal width, in which the numerous, fine, uniform and equidistant medullary rays are distinctly visible. Weight about 48 lbs. per cubic foot.

**It is rarely used.**

C 1137.	Ahri Reserve, Central Provinces	...	...	...	lbs.
C 2817.	Melghat, Berar (sapwood)	...	...	...	44
C 821.	Bairagarh Reserve, Berar	...	...	...	47
E 590.	Khookloong Forest, Darjeeling Terai	...	...	...	51
E 235.	Bamunpokri, Darjeeling Terai	...	...	...	48
B 3203.	Burma (1862)	...	...	...	**

128 *B. purpurea*, Linn., (*Roxb., Fl. Ind., ii, 320.*)

Vern.—Koiral, karár, karalli, gray, PB.; Koliár, kaniár, kandan, khairwal, kwilar, koilari, sona, HIND.; Khwairalo, NEPAL; Kachik, LEPCHA; Deva, kanchan, rakta kancha, Koiral, BENG; Burujn, KOL.; Koinar, LOHARDUGGA; Singyara, SONTAL; Kundrow, MAL (S. P.); Kodwari, GOND; Koliari, KURKU; Almatti, MAR; Kanchan, TEL; Pedda aré, mandareh, TAM; Sarúl, kanchivála, KAN; Mahalay kani, BURM.

A moderate sized deciduous tree of the Sub-Himalayan tract from the Indus eastward, Central and South India and of Burma.

Wood pinkish-white, turning dark-brown on exposure, moderately hard. Weight 40 to 50 lbs. per cubic foot.

Used for agricultural implements and in construction.

P	153.	Sainj, Giri Valley, 3,000 feet	lbs.
O	229.	Garhwal (1868)	42
O	230.	"	55
C	822.	Babaraghar Reserve, Berar	46
C	2792.	Melghat, Berar (sapwood)	50
E	585.	Khooeklong Forest, Darjeeling Terai	36
			50

129 | B. racemosa, Lam.

PARVIFLORA Vahl. (*Roxb., Fl. Ind., ii, 323.*)

vern. — *Am. Guindra*, taur, PB.; *Kachnāl, gáridāl, thaur, ashta, makkúna, maula*, A.; *Arára*, HIND.; *Dhondri, dhundera, astra, boshā*, GOND; *ŷhinja*, A.; *Arre*, AR.; *Ari, arro*, TEL.; *Ati, archi, areka*, TAM.; *Apta, seyāra*, MAR.; *Aray*, PAN.; *Aray*, BENG.; *Kaimu*, KOL.; *Gatonli*, ORAO.; *Katmanli*, KHAR.; *Aray*, and LOHARDUGGA; *Beriyi*, SONTAL; *Ambru*, MAL. (S. P.); *Ambrā*, GOTA, URIYA; *Aupta*, KAN.; *Hpalan*, BURM.; *Ambrā*, BHIL; *Bossar*, KURKU.

A small deciduous tree, met with in the Sub-Himalayan tract from the Ravi eastwards, ascending into 5,000 feet; in Oudh, Bengal, Burma, and Central and South India.

## BAUHINIA

Wood light-brown, hard, with irregularly shaped masses of darker-coloured and harder wood near the centre. Weight 40 to 56 lbs. per cubic foot.

Good, but not used.

		lbs
P 453.	Ajmere . . . . .	...
P 3216.	Nagpahar, Ajmere . . . . .	...
O 247.	Garhwal (1868) . . . . .	53
O 335.	Gorakhpur (1868) . . . . .	47
C 200.	Mandla, Central Provinces (1869) . . . . .	56
C 1170.	Ahiri Reserve, Central Provinces . . . . .	44
C 2770.	Melghat, Berar (sapwood) . . . . .	41

**Bauhinia retusa, Ham. (Roxb., Fl. Ind., ii, 322.)**

130

**Vern.**—Kural, PB.; *Kandla, kanalla, kuayral, gwayral, kanlap, semla*, HIND.; *Laba*, KOL.; *Twar*, ORAON; *Katman*, KHARWAR; *Thur*, GOND; *Kaimu*, LOHARDUGGA; *Nirpa*, GOND, TEL.; *Tewar*, PALAMOW.

A moderate sized deciduous tree of the North-West Himalaya from the Beas eastwards, ascending to 4,500 feet, and of Central India.

Wood reddish-white, with irregularly shaped, darker masses near the centre, hard. Weight 58 lbs. per cubic foot.

Not used.

		lbs.
O 532.	Dehra Dun . . . . .	58
C 1160.	Ahiri Reserve, Central Provinces . . . . .	...

**B. tomentosa, Linn.**

131

**Vern.**—*Kachnar*, HIND.; *Kanchini*, TAM.

A shrub or small tree of South India.

From the bark a fibre is prepared:

**B. VahlII, W. & A.**

132

**Syn.**—*B. RACEMOSA*, Vahl. (Roxb., Fl. Ind., ii, 325.)

**Vern.**—*Taur*, PB.; *Malghan, malhan, malu, maurain, jallaur*, HIND.; *Sihar, mahalan, maül*, C. P.; *Borla*, NEPAL; *Chehur*, BENG.; *Jom*, SONTAL; *Lama, rung*, KOL.; *Maulan*, KHARWAR; *Sungung rik*, LEPCHA; *Shioli*, URIYA; *Paur-bela*, GOND; *Adda*, TAM.; *Chamboli*, DEC.

This is one of the most extensive, as it is the most abundant and most useful, of Indian climbers. It is found all along the Lower Himalayas from the Chenab eastward, in North and Central India, and Tenasserim.

The wood is porous, in broad, irregularly broken concentric layers, alternating with red, juicy, bark-like tissue; the pith is cross-shaped. The foliage is very dense and the stems do great damage to the trees they climb over; it is very prevalent in sâl forests, and in many provinces is being systematically cut out.

Its uses are, perhaps, more numerous than those of any other forest plant; the strong cordage prepared from its bark is not the least important. In the *Kew Report for 1881*, it is stated that the leaves of this plant and not those of *Cochlospermum gossypium* are those used in the construction of the crude leaf-bellows in Sikkim. They are sewn together and used as plates, cups, rough table-cloths, umbrellas and rain-caps; its pod is roasted and the seeds eaten.

P. 108.	Sutlej.
O. 544.	Dehra Dun.
E. 474.	} Darjeeling Terai.
E. 2954.	

BEILSCH-  
MIEDIA.

133

**Bauhinia variegata**, Linn.<sup>c</sup> (Roxb., *Fl. Ind.*, ii, 319).

Vern.—*Kachnar*, *koliar*, *kural*, *padrian*, *khwairal*, *gural*, *gair*, *barial*, *HIND.*; *Kurmang*, *MECHI*; *Singya*, *KOL.*; *Kundol*, *BHUMIJ*; *Tingya*, *SONTHAL*; *Taki*, *NEPAL*; *Rha*, *LEPCHA*; *Rakta kanchan*, *BENG.*; *Borara*, *URIYA*; *Segapu-munthari*, *TAM.*; *Kanchivala-do*, *KAN.*; *Bwaycheng*, *BURM.*

A moderate sized deciduous tree found in the Sub-Himalayan tract from the Indus eastwards, and throughout the forests of India and Burma. Often planted for ornament.

Wood grey, moderately hard, with irregular masses of darker and harder wood in the centre. Weight 40 to 50 lbs.

Used for agricultural implements.

	lbs.
P 1200. Madhopur, Punjab . . . . .	33
C 823. Bairagarh Reserve, Berar . . . . .	48
E 591. Khooklong Forest, Darjeeling Terai . . . . .	47
E 2351. Bamunpokri " " " " . . . . .	39
H 105. Bhajji, Punjab (3,000 feet).	

## BEAUMONTIA.

134

**Beaumontia grandiflora**, Wall., *APOCYNACEÆ*.

Syn.—*ECHITES GRANDIFLORA*, Roxb. (*Fl. Ind.*, ii, 14).

Vern.—*Barbari*, *NEPAL*.

Is a large climber of East and North Bengal, with large showy lemon-white flowers. It is found from Nepal eastward to Sikkim, Sylhet, and Chittagong.

A fibre is prepared from the young twigs.

## BEESHA.

135

**Beesha Rheedii**, Kunth (*Munro*, 144; *Beddome*, cxxxiv.) *GRAMINEÆ*.

A kind of bamboo met with in Malabar and Cochin; stems 16 feet high.

136

**B. stridula**, *Munro*.

Vern.—*Batta*, *CINGH*.

Met with in Bombay and Ceylon; stems 6 to 18 feet.

137

**B Travancorica**, *Beddome*.

Vern.—*Irul*, *TRAVANCORE*.

Met with in the Hills of Tinnevely and Travancore, 3,000 to 5,500 feet; stems 6 to 8 feet; densely gregarious.

## BEILSCHMIEDIA.

138

**Beilschmiedia Royleana**, Nees, *LAURACEÆ*.

Syn.—*LAURUS BILGULARIS*, Roxb. (*Fl. Ind.*, ii, 311.)

Vern.—*Konhdiak*, *ORISSA*; *Tarsing*, *NEPAL*; *Kanyu*, *LEPCHA*; *Tapchi*, *GARO*; *Serai-guti*, *Ass.*; *Shatoobeng*, *BURM.*

An evergreen tree found in Eastern Himalaya up to 8,000 feet, in Eastern Bengal, Burma and the Andaman Islands.

## BERBERIS

Wood white, moderately hard, even-grained; heartwood with red and green streaks. Annual rings marked by sharp lines. Weight about 37 lbs. per cubic foot.

It is used in Assam for boats; in Darjeeling for building, tea-boxes and other purposes.

E 1258.	Tezpur, Assam	lbs.
E 1264.	" "	36
E 700.	Chuttockpur Forest, Darjeeling, 6,000 feet	39
E 2419.	Rangbúl " " 7,000 "	35
These two last have less numerous pores.		
E 3593.	Darjeeling.	36

{ E 1290.	Vern. Dumbail, Cachar, weight	31
{ E 1292.	Vern. Raun dolu " "	32

Probably these specimens belong to the above or some allied genus.

## BERBERIS.

**Berberis angulosa, Wall., BERBERIDÆ.**

Vern.—*Chutra*, NEPAL.

A large erect shrub of the inner ranges of Nepal and Sikkim, above 11,000 feet.

Wood dark-grey or yellowish-brown, hard. Weight about 50 lbs. per cubic foot.

E 2862. Suburkum, Darjeeling, 11,000 feet.

**B. aristata, DC.**

Syn.—*B. ANGUSTIFOLIA*, Roxb. (*Fl. Ind.*, ii, 183.)

Vern.—*Símlú*, *simlu*, *kasmal*, *chitra*, PB. *Tsema*, BHUTIA; *Chitra*, NEPAL; *Chotra*, HIND.

An erect spinous shrub of the outer Himalaya from the Sutlej to Bhutan; in the North-West Himalaya 6,000 feet to 10,000 feet; in Darjeeling above 10,000 feet; in the Western Ghâts at high elevations, and in Ceylon.

Wood yellow, hard. Weight 52 lbs. per cubic foot.

Used for fuel.

H 80.	Simla, 7,000 feet	lbs.
H 2888.	Nagkanda, Simla, 8,000 feet	52
H 3053.	Mahasu, Simla, 8,000 feet	...

**B. coriacea, n. sp., Brandis.**

Vern.—*Kashmal*, SIMLA.

A large erect thorny shrub of the North-West Himalaya above 8,000 feet; often forming alone or with other shrubs large extents of jungle, e. g., in the valley south of Nagkanda near Simla.

Wood yellow, moderately hard. Weight about 54 lbs. per cubic foot.

H 48.	Nagkanda, Simla, 9,000 feet	lbs.
H 2894.	" " "	...
H 3039.	" " "	...
H 3041.	" " "	...
H 3043.	" " "	55
H 3038.	Matiyana, Simla, 8,000 feet	52
H 3042.	Hattu, Simla, 10,000 feet	...



## BIXA.

Seldom used except for firewood and charcoal, for which purposes it is very good. Experiments made by Mr. Whitty with several kinds of wood fuel for the Darjeeling-Himalayan Railway showed that this was the best for locomotive purposes.

E 678. Bamunpokri, Darjeeling Terai . . . . . lbs.  
52

## BIOTA.

150 *Biota orientalis*, Endl., CONIFERÆ.

THE ABOR VITE.

Syn.—THUJA ORIENTALIS, Linn.

Indigenous in Japan and China; cultivated in Darjeeling.

Wood moderately hard, close-grained; heartwood dark-reddish-brown, the annual rings marked by darker colour.

E 3414.

## BISCHOFFIA.

151 *Bischoffia javanica*, Bl.

Syn.—ANDRACHNE TRIFOLIATA, Roxb. (*Fl. Ind.*, iii, 728.)

Vern.—Kein, korsa, irum, HIND.; Kainjal, NEPAL; Sinong, LEPCHA; Taisoh, urum, MECHI; Uriam, ASS.; Bolsuru, GARO; Foki, CACHAR; Boke, BOM.; Thondi, TAM.; Govarnellu, HASSAN; Modagerri vembu; TINNEVELLY; Yagine (?) BURM.

A deciduous tree met with in Kumaun, Garhwal, Oudh, Gorakhpur, Bengal, South India and Burma.

Weight  $47\frac{1}{2}$  lbs. per cubic foot.

Wood red, rough, moderately hard, with a small darker-coloured heartwood.

In Assam it is esteemed one of the best timbers and used for bridges and other works of construction. Beddome says it is used by planters in the Nilgiris for building, and is sometimes called *Red Cedar*.

O 1374.	Gonda, Oudh	. . . . .	lbs.
E 654.	Bamunpokri, Darjeeling Terai	. . . . .	44
E 1257.	Tezpur, Assam	. . . . .	53
E 2191.	Nowgong, Assam	. . . . .	47
E 2467.	Calcutta (sapwood)	. . . . .	46
			36

## BIXA.

152 *Bixa Orellana*, Linn., BIXINÆ.

FR. ARNOTTO DYE.

Vern.—Lafan, Wathana, HIND.; Beng.; Jarat, ASS.; Jafra, TEL.; Kurag-mankal, TAM.; Theedin, BURM.; Kuppa-mankala, rangamali; KAU.; Kesari, Sendri, MAR., BOM.

A graceful shrub, with handsome white or pinkish flowers and echinate red capsules; originally a native of America, now largely cultivated in India for the red or orange dye obtained from the pulp which surrounds the seed.

Wood pinkish-white, soft, even-grained.

E 3401. Jalpiguri, Bengal.

**Boats, Canoes, and Ship-building**—Woods used for. See APPENDIX.

### BOEHMERIA.

**Boehmeria platyphylla**, Don., URTICACEÆ.

Vern.—*Gargela*, HIND.; *Kamli*, NEPAL.

A large shrub or small tree met with in the outer Himalaya up to 7,000 feet, in the Khsia Hills, East Bengal, South India, and Ceylon.

Wood moderately hard, reddish-brown with occasional concentric bands of darker and lighter colour.

E 3317. Darjeeling, 6,500 feet.

**B. rugulosa**, Wedd.

Vern.—*Geti*, *gainti*, HIND.; *Dar*, NEPAL; *Sedeng*, LEPCHA.

A small tree met with in Garhwal, Kumaun, Nepal, Sikkim and Bhutan.

Wood red, moderately hard, even-grained, durable, seasons well. A nice wood, easy to cut and work. Weight 41 lbs. per cubic foot.

It is used in Kumaun and Nepal for making bowls; in Sikkim for milk-pails, churns and other dairy utensils. The Lepchas make cups, bowls and tobacco-boxes of it.

	lbs.
O 324. Garhwal (1868)	35
O 3000. " (1874)	44
E 600. Khookloong Forest, Darjeeling Terai	46
E 2443. Mangwa, Tista Valley, Darjeeling, 3,000 feet	39

### BOMBAX.

**Bombax insigne**, Wall., MALVACEÆ.

Vern.—*Semul*, *thula*, BENG.; *Saitu*, MAGH.

A large tree, trunk without prickles, met with in Chittagong, Burma, and the Andaman Islands.

Structure similar to that of *B. malabaricum*, but pores smaller and more scanty. The wood is also more durable than that of *B. malabaricum*; the specimen from the Andamans had been 12 years in Calcutta in the rough, and was only slightly discoloured on being cut up.

	lbs.
B 2215. Andaman Island ( <i>Major Ford</i> , 1866)	31

**B. malabaricum**, DC.

SILK COTTON TREE.

Syn.—*B. HEPTAPHYLLUM*, Cav. (*Roxb., Fl. Ind., iii.*)

Vern.—*Simbal*, HAZARA; *Shirlan*, SUTLEJ; *Semul*, *sembal*, *semur*, *pagun*, *somr*, HIND., BENG.; *Dél*, KÔL.; *Edel*, SONTAL; *Simur*, MAL. (S.P.); *Bouro*, SIMURI, URIYA; *Bolchú*, *panchu*, G.; *Sunglá*, LEPCHA; *Búrga*, *búrgá*, *buraga*, TEL.; *Illavam*, *pulá*, CINGH.; *Búrga*, KAN.; *Katu-imbúl*, CINGH.; *Wallaiki*, GOND; *Katseori*, KIL; *Lapaing*, MAGH.; *Letpan*, BURM.

A very large deciduous tree, with branches in whorls, spreading horizontally, and stem with large buttresses at base: met with throughout India and Burma.

BOMBAX

153

154

155

156

**BORASSUS.**

The wood of old trees is very often a dull red colour. Wood white when fresh cut, turning dark on exposure; very soft, perishable; no heart-wood; no annual rings. It is not durable, except under water when it lasts tolerably well.

It is used for planking, packing-cases and tea-boxes, toys, scabbards, fishing-floats, coffins, and the lining of wells. In Bengal and Burma the trunk is often hollowed out to make canoes.

		lbs.
P 466.	Ajmere . . . . .	...
C 201.	Mandla, Central Provinces (1871) . . . . .	32
C 1117.	Chanda " " . . . . .	31
E 679.	Bamunpokri, Darjeeling Terai . . . . .	23
E 2323.	" " " " . . . . .	17
E 1232.	Sibsagar, Assam . . . . .	28
E 1432.	Assam . . . . .	20
E 1961.	Chittagong . . . . .	21
B 3117.	Burma (1862) . . . . .	24
No. 14.	Salem Collection . . . . .	20
E 3606.	Sivoke Forests, Darjeeling Terai. . . . .	...
E 3676.	Darjeeling Terai (1882) . . . . .	19

**BORASSUS.**

157

**Borassus flabelliformis, Linn., PALMÆ.****THE PALMYRA PALM.**

**Vern.**—*Tāl, tala, tar*, HIND.; *Tal*, BENG.; *Potu tadi* (the male tree), *Penti, tadi* (the female), TEL.; *Panam, pannic*, TAM.; *Pana*, MAL.; *Tali, tale*, KAN.; *Tal*, CINGH.; *Tad*, GUZ.; *Htan*, BURM.

A tall palm with cylindrical stem, cultivated throughout tropical India, and beyond the tropics in Bengal, and the southern part of the North-West Provinces. The young stems are covered with dry leaves or the lower part of petioles, while the old stems are marked with the hard, black, long and narrow scars of the fallen petioles.

Centre soft, but not often hollow. Fibro-vascular bundles black, crowded in the outer portion of the stem; if cut through at right angles they are oblong, generally with one large pore and a mass of cells at one end. Outer wood hard, heavy, and durable. The hollowed-out stems are used as water pipes; and, split in half, for gutters and open water channels. The hard outer wood is used for posts, rafters and other purposes.

		lbs.
C 960.	Guzerat, Bombay . . . . .	42
E 18.	Jessore, Bengal . . . . .	46
W 707.	South Kanara . . . . .	51
W 869.	" " . . . . .	...
W 2922.	Mabar . . . . .	63
D 1475.	Salem, Madras . . . . .	25
B 563.	Prome, Burma . . . . .	49
B 2458.	Myanounng, Burma . . . . .	31
No. 15.	Salem Collection . . . . .	72
No. 83.	Ceylon Collection . . . . .	65

BRASSIA  
FIS.

## BOSWELLIA.

**Boswellia serrata**, *Roxb., ex Colebr., in Asiatic Res., ix, 379 t. 5., BURSERACEÆ.*

INDIAN OLIBANUM TREE.

**Syn.**—*B. THURIFERA*, *Roxb. ex-Flem.*; *B. THURIFERA*, (*Colebr.*, as in *Gamble's Manual of Timbers*); *LIBANUS THURIFERA*, *Colebr.*; *B. GLABRA*, *Roxb.***Vern.**—*Salhe, salei, salgá*, HIND.; *Saleya*, LOHARDUGGA; *Salga*, SONTHAL; *Luban, salai*, BENG.; *Kungli, gágulu, kúndrikam morada*, TAM.; *Anduku, anduga, Gúgger, dúmsal*, KUMAON; *Salla, bor-salei, ganga, GOND*; *Parangi*, TEL.; *Chiltu*, KAN.; *Salai, guggula, sala-phali*, BOM.

A moderate sized, often gregarious tree found in the intermediate, northern and southern dry zones, the Sub-Himalayan tract from the Sutlej to Nepal, and in the drier forests of Central and Southern India.

Wood rough, white when fresh cut, darkening on exposure, moderately hard. It is not durable, but it has been reported that five sleepers made of it and soaked for some time in a tank filled with the leaves of *Bahera* (*Terminalia belerica*) and water and put down in June 1876 on the Holkar and Neemuch State Railway are still (1881) perfectly sound and good. (*Indore Forest Report, 1876-77*, quoted in *Indian Agriculturist* of May 1878.)

It is used for fuel and for making charcoal, which in Nimar is used for iron smelting.

	lbs.
P 3215. Nagpahar, Ajmere . . . . .	...
C 1112. Ahiri Reserve, Central Provinces . . . . .	36
C 2780. Melghát Forest, Berar . . . . .	28
C 3680. Palamow, Chutia Nagpore . . . . .	28

## BOUEA.

**Bouea burmanica**, *Griff., ANACARDIACEÆ.***Syn.**—*B. OPPOSITIFOLIA*, *Meissn.*; (*Kurz, i, 306*); *MANGIFERA OPPOSITIFOLIA*, *Roxb. (Fl. Ind., i, 640.)***Vern.**—*Meriam, mayan*, BURM.

A moderate sized evergreen tree met with in Burma and the Andaman Islands.

Wood grey, hard, with a dark-reddish-brown heartwood. Weight 55 lbs. per cubic foot.

It is not specially used, but is said by Roxburgh to be very durable.

	lbs.
B 2213. Andamans (1866) . . . . .	55

Boxwood, substitutes for. See APPENDIX under T.

## BRASSAIOPSIS.

**Brassaiopsis mitis**, *C. B. Clarke, ARALICEÆ.***Vern.**—*Mogchini*, NEPAL; *Suntong*, LEPCHA.

A small tree of Sikkim Himalaya above 5,000 feet; common at Darjeeling.

## BRIEDELIA.

Wood soft, white, spongy. Weight 24 lbs. per cubic foot.

E 2382. Rangbúl Forest, Darjeeling, 7,000 feet . . . lbs.  
24.

161. *Brassaiopsis speciosa*, DCne and Planch.

Syn.—*B. FLORIBUNDA*, Seem.

Vern.—

A small tree met with from Nepal to Assam and Chittagong.

Wood white, soft, resembling the preceding,

E 3409. Darjeeling, 6,000 to 7,000 feet.

## BRIEDELIA.

162 *Briedelia montana*, Willd., EUPHORBIACEÆ.

Vern.—*Kargnalia*, *khaja*, *geia*, *kusi*, HIND; *Geio*, NEPAL; *Kaisho*, ASSAM; *Patenga*, TEL.

A moderate sized deciduous tree met with in the Sub-Himalayan tract from the Jhelam eastwards, ascending to 4,000 feet, in Oudh and in Bengal.

Wood grey, beautifully mottled; annual rings distinctly marked by darker and firmer wood on the outside of each ring. Weight 46 to 59 (P) lbs. per cubic foot.

It is very similar to that of *B. retusa*, and might be used for the same purposes.

O 1375. Gonda, Oudh . . . lbs.  
C 199. Mandla, Central Provinces (1870) . . . 59  
46

163 *B. retusa*, Spreng.

Syn.—*B. CRENULATA*, Roxb., and *B. SPINOSA*, Willd. (Roxb., *Fl. Ind.*, iii, 734, 735.)

Vern.—*Pathor*, mark, PB.; *Khaja*, *kassi*, *gauili*, HIND.; *Kharaka*, *kaka*, KOL; *Karika*, BHUMIJ; *Kanj*, *Kaji*, KHARWAR; *Kij*, MONGHYR; *Kadurpala*, *gadurpala*, SONTHAL; *Lamkana*, AJMEER; *Angnera*, BANSWARA; *Asana*, MAR.; *Geio*, NEPAL; *Pengji*, LEPCHA; *Nanda*, RAJBANSHI; *Katakuchi*, MECHI; *Kashi*, GARO; *Kamkui*, CHITTAGONG; *Kasi*, URIYA; *Mulu-vengay*, *kamanji*, TAM.; *Koramau*, *dudi maddi*, *koramadi*, *duriamadi*, TEL.; *Kassei*, GOND; *Karka*, KURKU; *Gúnjan*, *kati ain*, MAR., BHIL; *Asuna*, *gojé*, KAN.; *Adamarathu*, TINNEVELLY; *Tseichyee*, BURM.; *Katta kaala*, CINGH.

A large deciduous tree, with thorns on the bark of young stems, found in the Sub-Himalayan tract, from the Chenab eastwards, ascending to 3,600 feet, in Oudh, Bengal, Central and South India, and in Burma.

Sapwood small; Heartwood grey to olive-brown, close-grained, durable, seasons well, and is moderately hard; the annual rings marked by concentric lines. It has a mottled grain and takes a beautiful polish.

It is used for cattle-yokes, agricultural implements, carts, and building. It stands well under water.

P 461. Ajmer, (1868) . . . lbs.  
O 259. Garhwal, (1868) . . . 48  
O 3001. " (1874) . . . 45  
O 1480. Kheri, Oudh . . . 43  
O 347. Gorakhpur (1868) . . . 61  
C 1174. Ahiri Reserve, Central Provinces . . . 47  
C 840. Bairagarh Reserve, Berar . . . 55  
C 2765. Melghat, Berar . . . 63  
45



## BUDDLEIA.

B 2217 } Are probably species of this genus. They were obtained  
B 2222 } from the Andaman Islands under the name of *Garcinia*  
and *Mallotus*.

## BUCHANANIA.

168 *Buchanania latifolia*, Roxb., ANACARDIACEÆ.

Vern.—*Chironji* (the fruit), BENG.; *Chirauli* (the fruit) *Chironji*, PB.; *Pial*, *payala muria*, *kābhilawa*, GARHWAL; *Piār*, *paira*, *pīrrah*, OUDH; *Tarum*, KOL.; *Pial*, BHUMIJ; *Peeā* KHARWAR; *Parōp*, SONTAL; *Charu*, URIV.; *Achār*, *char*, *chironji* (the fruit), C. P.; *Saraka*, *herka*, GOND; *Taro*, KURKU; *Chirwari*, HYDERABAD; *Mowdo*, or *Katimango-marum Kat*, *mad*, *aima*, TAM.; *Chara*, *chinna morai*, *morli*, TEL.; *Nuckul*, *murkalu*, KAN.; *Sir*, BHIL.; *Piyāl*, *charoli*, BOM.; *lonpho*, *lunbo*, *lamboben*, BURM.

A tree, leafless only for a very short time; found in the Sub-Himalayan tract from the Sutlej eastwards, ascending to 3,000 feet; throughout India and Burma.

Wood greyish-brown, moderately hard with a small dark-coloured heartwood. It seasons well and is fairly durable if kept dry. Weight 30 to 36 lbs. per cubic foot.

It is used for boxes, bedsteads, bullock-yokes, doors, window frames, tables and the like.

	lbs.
C 245. Garhwal (1868)	35
C 1124. Ahiri Reserve, Central Provinces	29
C 2751. Moharli " " "	36
C 2763. Melghát, Berar . . .	...
C 1249. Gumsúr, Madras . . .	32
C 3532. Khurdha Forest, Orissa . . .	34

## BUCKLANDIA.

169 *Bucklandia populnea*, R. Br., HAMAMELIDÆ.

Vern.—*Pipli*, NEPAL; *Singliang*, LEPCHA; *Dingdah*, KHÁSIA.

A large evergreen tree met with in the Eastern Himalaya, Khásia Hills and hills of Martaban, from 3,000 to 8,000 feet.

Wood greyish-brown, rough, moderately hard, close-grained, durable.

Is very much used in Darjeeling for planking and door and window frames, and is in great demand.

	lbs.
E 699. Sepoydura Forest, Darjeeling, 5,500 feet . . .	41
E 2372. Rangbul " " 7,000 " . . .	49
E 2373. " " " " " " . . .	46
E 3673. Darjeeling " " 6,500 " . . .	27

## BUDDLEIA.

170 *Buddleia asiatica*, Lour., LOGANIACEÆ.

Syn.—*B. NEEMDA*, Roxb. (*Fl. Ind.*, i, 396.)

Vern.—*Bhati*, *dhatā*, *shikūtra*, KUMAUN; *Bana*, SIMLA; *Newarpati*, NEPAL; *Pondam*, LEPCHA; *Nimda*, *budbhola*, CHITTAGONG; *Kyongmsee koo*, BURM.

A large evergreen shrub of the Sub-Himalayan tract from the Indus eastwards, ascending to 4,000 feet, Bengal, Burma, South India; chiefly found in second growth forests, deserted village sites and savannahs.

## BUTEA.

Wood grey, moderately hard. Weight 44 lbs. per cubic foot.

H. 110. Sutlej Valley, Simla, 400 feet . . . . . lbs.  
44

**Buddleia Colvillei, Hook. f. and Th.**

Vern.—*Puri singbatti*, NEPAL; *pya-shing*, BHUTIA.

A small tree of the Eastern Himalaya, from 9,000 to 12,000 feet.

Wood reddish-brown, soft.

E 2393. Tonglo, Darjeeling, 10,000 feet . . . . . lbs.  
35

**B. paniculata, Wall.**

Syn.—*B. CRISPA, Benth.*

Vern.—*Spera wuna*, AFG; *Dholtu, ghútiá, sodhera, sudhari*, N.W. HIMALAYA; *Sinna*, NEPAL.

A large evergreen shrub of the Himalaya, from the Indus to Bhutan, ascending to 7,000 feet.

Wood white, moderately hard, close-grained. Weight 41 lbs. per cubic foot.

H 158. Simla, 7,000 feet . . . . . lbs.  
41  
H 2882. Nagkanda, Simla, 7,000 feet . . . . .

**BURSERA. Linn.****Bursera serrata, Colebr., BURSERACEÆ.**

Vern.—*Murtenga*, ASS.; *Thadee-ben*, BURM.

A large evergreen tree of the Eastern moist zone, of Bengal, Assam, Chittagong and Burma.

Wood hard, sapwood light-brown, heartwood red, close-grained.

Weight 46 lbs. per cubic foot.

Good for furniture.

B 313. Burma (1867) . . . . . lbs.  
46  
B 2225. Andamans (similar in structure, but wood  
lighter and softer) . . . . . 37

**BUTEA.****Butea frondosa, Roxb., LEGUMINOSÆ.**

Vern.—*Dhak, palas, kakria, kankrei, chichra*, HIND.; *Chalcha*, BANDELKHAND; *Chúla, puroha*, C. P.; *Palas*, BENG.; *Murut*, KOL.; *Muruf*, SONTHAL; *Pharsa*, BAIGAS; *Paras, faras*, BEHAR; *Palasi, bulyettra*, NEPAL; *Lahokúng*, LEPCHA; *Palashu*, MECHI; *Porásu*, URIYA; *Murr*, GOND; *KURKU*; *Porasan*, TAM.; *Modugu, mohtu*, TEL.; *Muttuga, thoras*, KAN.; *Paras*, MAR.; *Gasskeala, calukeale*, CINGH.; *Pouk*, BURM.

A moderate sized deciduous tree, found throughout India and Burma, extending in the North-West Himalaya as far as the Jhelum.

Wood dirty white, soft, not durable; no annual rings.

It is said to be better under water, and so is used in North-West India for well-curbs and piles.

The charcoal from this plant was introduced by Dr. T. W. Sheppard, in 1874, for bleaching the morphia manufactured at the Opium Factory, Ghazipur. It was selected after a series of experiments with the different forms of charcoal, its great advantage being its comparative freedom





## BUXUS.

would not exceed £1 to £2 per ton, whilst if free from splits, round and straight and with—

not exceeding one knot per foot in length } the value would probably { £10 per ton,  
exceeding 1 knot and not exceeding 2 knots } be { £7-10s. ,,  
" 2 knots " " 3 " " } { £5 ,,

all knots or holes, counted as such, however small.

"Wood 4 inches and upwards in diameter is preferred with one split rather than sound or with more than one split; any splits after the first reducing the value on account of the additional waste in working the same.

	Averaging per foot in length.		
	1 knot.	2 knots.	3 knots.
The value of round and straight (1 split) averaging.			
4 to 5 inches diameter	6	4-10s.	3
5 to 6 " "	9	6	3
6 inches and upwards diameter	12	9	4-10s.

"If the splits are twisted more than 1 inch to the foot if small, 2 inches if medium size, and 3 inches to the foot length if large, the value is reduced one-half.

"The above values will, of course, vary in accordance with the supply and demand for the various sizes and qualities.

"The most suitable texture of wood will be found growing upon the sides of mountains. If grown in the plains, the growth is usually too quick, and consequently the grain is too coarse; the wood of best texture being of slow growth and very fine in the grain.

"It should be cut down in the winter, and, if possible, stored at once in airy wooden sheds, well protected from sun and rain, and not to have too much air through the sides of the shed, more especially for the wood under 4 inches diameter.

"The boxwood also must not be piled upon the ground, but be well skidded under, so as to be kept quite free from the effects of any damp from the soil.

"After the trees are cut down, the longer they are left exposed the more danger is there afterwards of the wood splitting more than is absolutely necessary during the necessary seasoning before shipment to this country.

"If shipped green there is great danger of the wood sweating and becoming mildewed during transit, which causes the wood afterwards to dry light and of a defective colour, and in fact rendering it of little value for commercial purposes.

"There is no occasion to strip the bark off, or to put cowdung or anything else upon the ends of the pieces to prevent their splitting.

"Boxwood is the nearest approach to ivory of any wood known, and will therefore probably gradually increase in value, as it, as well as ivory, becomes scarcer. It is now used very considerably in manufacturing concerns, but on account of its gradual advance in price during the past few years, cheaper woods are in some instances being substituted.

"Small wood under 4 inches is used principally by flax-spinners for rollers and by turners for various purposes, rollers for rink skates, &c., &c., and if free from splits is of equal value with the larger wood. It is imported here as small as 1½ inches in diameter, but the most useful sizes are from 2½ to 3½ inches, and would, therefore, we suppose, be from 15 to 30 or 40 years in growing, whilst larger wood would require 50 years and upwards at least, perhaps we ought to say 100 years and upwards. It is used principally for shuttles for weaving silk, linen and cotton, and also for rule-making and wood engraving. *Punch, The Illustrated London News, The Graphic*, and all the first-class pictorial papers use large quantities of boxwood."

Messrs. Churchill and Sim, reporting on some boxwood sent to them for sale in 1880, and which fetched 21 shillings per cwt., equivalent at 60 lbs per cubic foot to 11s. 1d. or about Rs. 6 per cubic foot, say:—

The pieces of boxwood were remarkably fine specimens, equal in quality to the best Abasia, and fetched a very high price, equivalent to £21 per ton. These logs were depreciated in value for ordinary purposes, owing to their having been squared, which was a mistake, as in that operation much valuable wood had been wasted, and when the bark is removed, a good protection to the log is destroyed. In the present state of the boxwood trade, and considering the fact that the supplies which have been coming forward for some time past are deteriorating in quality, from the action of the Turkish Government in closing the forests and from other causes, the probability of a supply of this wood from India is a matter of considerable importance. The usual run of this wood would not, however, fetch the high price of this picked sample. The price realized cannot, however, be taken as any criterion, for whether supplies can be sent to this market, and sold at prices which will cover transit and freight, and then

CÆSAL-  
PINIA.

leave a profit, is very doubtful. Could this wood be regularly placed on the market at a moderate figure, there is no reason why a trade should not be developed in it."

		lbs.
H	930. Hazara, 7,000 feet	59
H	165. Kangra ( <i>Stewart</i> , 1866)	58
H	168. Shahpur	...
H	614. Kulu, 7,000 feet	56
H	954. Kunawar	...
H	990.	54
H	38. Kanaru, Simla, 8,000 feet	60
H	77. Shali, Simla, 7,000 feet	57.
H	2914.	...
H	424. Darua block, Deo an, North-Western Provinces, 6,800 feet	55

For a list of woods suggested as substitutes for boxwood see *Appendix under Turnery*.

177. *Byrsonima Pulchra*, DC.

A tree of Mexico and South America.

E 3719. Calcutta Botanical Gardens, (1879, Cyclone woods.)

Cabinet-work. See Furniture in APPENDIX.

## CÆSALPINIA.

178 *Cæsalpinia Bonducella*, Roxb., LEGUMINOSÆ.

Vern.—*Katkaranj*, *kattkaleja*, HIND.; *Nata*, BENG.; *Bagni*, SONTHAL; *Akitmakit*, ARAB.; *Khayabe-iblis*, PERS.; *Sagurghota*, *gaja*, BOM.; *Gajhai*, KAN.; *Gechchakkay*, TAM.; *Ka-hendsa*, BURM.

A common prickly shrub found all over in India.

179 *C. coriaria*, Willd.

This is the American *Divi-divi* or American *Sumach*. See *Divi-divi* or *Libi-dibi*.

The sinuous pods of this plant are used for tanning leather.

Wood, weight 56 lbs.

180 *C. Sappan*, Linn., LEGUMINOSÆ.

THE SAPPAN WOOD.

Vern.—*Bakam*, *tairi*, HIND.; *Guz.*, BENG.; *Pat-anga*, TAM.; BOM.; *Bakamu*, *bakapu*, TEL.; *Bokmo*, URIYA; *Pattang*, MAR.; *Patanga*, KAN.; *Teing nyet*, BURM.

A small thorny tree of the Eastern and Western Peninsula and Pegu, cultivated in Central India in plantations.

Sapwood white, heartwood red. The wood takes a fine polish and does not warp or crack.

Weight, according to *Skinner*, No. 33, 60 lbs. per cubic foot; *Wallich* gives 61 lbs.

C 3136. Moharli, Central Provinces (cultivated) (sapwood) 52 lbs.

181 *C. sepiaria*, Roxb.

THE MYSORE THORN.

Vern.—*Urn*, *uri*, *aru*, *relu*, *kando*, *aila*, HIND.; *Chillar*, MAR.; *Hotsigé*, KAN.; *Chillara*, BOM.

A large climbing prickly bush on the Himalaya, and in Ceylon and Ava ascending to 4,000 feet in altitude.

## CALAMUS.

Makes an impenetrable fence planted for this purpose by Hyder Ali round fortified places. (*Brandis*.)  
C 8460. Seranda Forests, Chutia Nagpur.

## CALAMUS.

**Calamus acanthospathus, Griff.**

• Met with in the Khásia Hills.

**C. andamanicus, Kurz.**

Vern.—*Chowdah*, AND.

Met with in the Andamans.

**C. arborescens, Griff (Kurz, ii, 516), PALMA**

Vern.—*Danoung, kyenbankyen*, BURM.

An erect cane met with in Pegu.

B 1026. Toungoo, Burma.

**C. collinus, Griff.**

An erect cane met with in the Khásia Hills and in Upper Assam.

**C. (Dæmonorops) Draco, Willd.**

Vern.—*Dam-ul-akhṣain, jaida rumi, hirada khum*, HIND.

It is a native of the Indian Archipelago.

The drug is sold in dark-red, friable masses, from which a blood-red powder is obtained; often sold in the bázár in the interior of canes. This climber yields the Dragon's-blood of the *Indian Materia Medica*.

**C. erectus, Roxb. (Fl. Ind., iii, 774.)**

Vern.—*Sungotta*, SYLHET; *Theing*, BURM.

An erect cane of Sylhet, Chittagong and Pegu.

**C. extensus, Roxb. (Fl. Ind., iii, 777.)**

Vern.—*Dengullar*, SYLHET.

Met with in Sylhet.

**C. fasciculatus, Roxb. (Fl. Ind., iii, 779.)**

Vern.—*Bara bet*, BENG.; *Kyeing-kha*, BURM.

Met with in Bengal, Orissa, Chittagong, Burma and the Andamans.

**C. flagellum, Griff.**

Vern.—*Rabi bet*, NEPAL; *Reem*, LEPCHA; *Nagagola bet*, ASS.

Met with in Sikkim and Assam.

**C. floribundus, Griff.**

Met with in Upper Assam.

**C. gracilis, Roxb. (Fl. Ind., iii.)**

Vern.—*Mapuri bet*, BENG.; *Kraipang*, MAGH; *Hundi bet*, ASS.

Met with in Assam and Chittagong.

**C. grandis, Griff.**

Syn.—*Dæmonorops grandis*, *Kurz (Enum, 30.)*

Met with in the Andamans.

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## CALAMUS.

- 194 **Calamus Guruba, Mart.**  
 Vern.—*Kyeingnee*, BURM.  
 Met with in Chittagong and Burma  
 B 1031. Toungoo.
- 195 **C. Helferianus, Kurz (ii, 521; Enum., 39.)**  
 Met with in Tenasserim or the Andamans.
- 196 **C. humilis, Roxb.**  
 An erect cane of Chittagong.
- 197 **C. hypoleucus, Kurz (ii, 523.)**  
 Syn.—*Dæmonorops hypoleucus*, Kurz (Enum., 29)  
 Met with in Tenasserim.
- 198 **C. inermis, T. And.**  
 Vern.—*Dangri bet*, NEPAL; *Brool*, LEPCHA.  
 Furnishes the finest Alpenstocks.  
 E 1016. Darjeeling.
- 199 **C. Jenkinsianus, Griff.**  
 Syn.—*Cymbospathes Jenkinsianus*, Gamble.  
 Vern.—*Gola bet*, Ass.  
 Met with in the Sikkim Terai, the Dúars and Assam.  
 E 1018. Darjeeling.  
 E 1300. (*Galbah*) Cachar.
- 200 **C. latifolius, Roxb. (Fl. Ind., iii, 775.)**  
 Vern.—*Korak bet*, CHITTAGONG; *Sain*, MAGH; *Yamatha*, BURM.  
 Met with in Chittagong Burma, and the Andamans.  
 This cane is much used in Burma for tying timber in rafts, and making the cables which stretch across the river at the Salween rope station.  
 B 1001, 1003, 1027. Burma.  
 E 1004. Chittagong.
- 201 **C. leptospadix, Griff.**  
 Vern.—*Dangri bet*, NEPAL; *Lat*, LEPCHA.  
 Found in Sikkim and the Khásia Hills.
- 202 **C. longipes, Griff.**  
 Vern.—*Gola bet*, SUNDERBUNDS.  
 Dr. King has identified this plant, proving the existence in India of a species hitherto supposed to be confined to Malacca.  
 E 1007. Sunderbuns.
- 203 **C. macracanthus, T. And.**  
 Vern.—*Phekopi bet*, NEPAL; *Ruebee, green*, LEPCHA.  
 E 1017. Darjeeling.
- 204 **C. macrocarpus, Griff.**  
 Syn.—*C. erectus*, Roxb.  
 An erect cane, met with in the Bhutan Dúars.

## CALAMUS

**Calamus Mastersianus, Griff.**

Syn.—C. GURUBA, Kurz.

Vern.—Sundi-bet, quabi-bet, Ass.

E 1299. Cachar.

205

**C. mishmiensis, Griff.**

Met with in the Mishmi Hills.

206

**C. montanus, T. And.**

Vern.—Gouri bet, NEPAL; Rue, LEFCHA.

Found in Sikkim and Bhutan. Yields the best cane for suspension bridges and dragging logs in Sikkim.

207

**C. nutantiflorus, Griff.**

Met with in Assam.

208

**C. palustris, Griff.**

Syn.—C. LATIFOLIUS, Kurz (ii, 518.; Enum., 34.)

Met with in Mergui.

209

**C. paradoxus, Kurz (ii, 521.; Enum., 40.)**

Met with in Martaban.

210

**C. polygamus, Roxb. (Fl. Ind., iii, 780.)**

Vern.—Hádám, CHITTAGONG.

Met with in Chittagong.

211

**C. quinquenervius, Roxb. (Fl. Ind., iii, 777.)**

Vern.—Hurnur-gullar, SYLHET.

Met with in Sylhet.

212

**C. rotang, Linn**

THE RATTAN CANE.

Syn.—C. ROXBURGHII, Griff.

Vern.—Bed, PERS.; Bit Cachibet, BENG., HIND.; Pepa, prabba, C. P.; Perambu, TAM.; Beta mu, TEL.

It is met with in Bengal, Assam, South India, and Burma.

This is the species which yields the best Rattan Cane of commerce. Other species are, however, used as substitutes. It is split into strips and plaited or woven into baskets, chairs, sofas, and carriages. It is twisted into ropes, or stretched entire across rivers, as the main supports of indigenous suspension bridges.

213

**C. Royleanus, Griff.**

Syn.—C. ROTANG, Linn.

Met with in Dehra Dun and in Northern Bengal.

214

**C. schizospathus, Griff.**

Vern.—Rong, LEFCHA.

An erect cane, native of Sikkim and the Khásia Hills.

Stem about 2 inches in diameter with hard wood and closely-packed fibro-vascular bundles; very close, as usual, towards the edge.

215

**C. tenuis, Roxb. (Fl. Ind., iii, 780.)**

Vern.—Bandhuri bet, CHITTAGONG; Kring, MAGH.; Jalla bet, Ass.

Met with in Assam, Sylhet, Chittagong and Pegu.

E 3377. Sivoke Hills, Darjeeling.

216

**CALLICAR-**  
**PA.**

**217.**

***Calamus tigrinus, Kurz.***

Verf.—Lems, BURM.; Amdah, ANB.

**Found in Burma and the Andamans.**

B 1042. Andamans. c

*Vernacular names given to Canes sent to the Paris Exhibition, the scientific names of which could not be determined.*

Persons who have the opportunity of doing so may find it possible to supply fresh specimens of these plants along with leaves and fruits so as to admit of their identification.

From Chittagong were received *Kerak jayat* and *golak*; the first is probably *C. latifolius*; from Assam *Ripin*, *ringer*, *risan*, *raidana*, *bent*, *sowka bent*, *rangi*, *pakhori*, *hewka*, *charainari*, *lijai*; from Cachar *Jali*, *soondi*, and *gallah*; from Burma, *Theinkyeng*, *dyauthaukyeng*, *engk-yeng*, *toungkyeng*, *kyengbot*, *yanoung*, *khaboung*; from South Kanara *Betha* and *nagabetha*, and from the Andamans *Boledah*, *jobetahdah*, *jobetah*, and a palm called *chardah*.

## CALICOPTERIS.

218

**Calicopteris floribunda, Lam., COMBRETACEÆ.**

**Syn.**—GETONIA FLORIBUNDA, *Roxb. Fl. Ind.*, ii, 428.

**Vern.**—*Kokoranj*, C. P.; *Bandi*, *murududu*, TEL.; *Marsada*, *boli*, MYSORE.

A large climbing shrub of Central and Southern India.

Wood yellowish-white, moderately hard, with numerous broad medullary patches of soft, pith-like texture.

C 2755.	Moharli Reserve, Central Provinces	lbs.
		45

## CALLICARPA.

**2IQ**

**Callicarpa arborea, Roxb. (Fl. Ind., i, 390), VERBENACEÆ.**

**Vern.**—*Ghiwala*, *dera*, *shiwoali*, KUMAUN; *Bormala*, BENG.; *Bündün*, KOL.; *Bogodi*, *gogdi*, KHARWAR; *Boropatri*, URIYA; *Dum Kotokui*, SONTHAL; *Sakrela*, MAL.; *Goehlo*, NEPAL.; *Kodo*, *koso*, MECHI; *Sung-a*, LEPCHA; *Doika*, RAJBANSHI; *Khoja*, ASS.; *Makanchi*, GARO; *Turmong*, MAGH; *Doung-sap-pyay*, BURM.

A moderate sized tree with brownish, rough grey bark of Kumaun, Oudh, Eastern Bengal and Burma ; chiefly in second growth forests.

Wood grey, moderately hard, even-grained. Annual rings visible. Not used except for charcoal.

E 597.	Khookloong Forest, Darjeeling Terai . .	lbs.	32
E 2397.	} Bamunpokri, Darjeeling Terai . .	"	35
E 2398.			
C 3445.	Seemah Reserve, Palamow, Chutia Nagpur.		

220

**C. cana, Linn.**

Vern.—*Arusha*, CHITTAGONG.

A shrub of Bengal; common in forests and along roadsides in the Terai and Duars, extending probably southwards to the Ganges.

Wood white, soft. Annual rings marked by a line of closer pores.

E 3276. Dainah Reserve, Western Dúars.

## CALOPHYLLUM.

## CALLIGONUM.

**Calligonum polygonoides**, Linn., POLYGONACEÆ.

Vern. — *Balanja*, *berwaja*, *tatúke*, TRANS-INDUS; *Phók*, *phóg*, PB.

A slow-growing shrub of the arid zone of Sind, the Punjab and Rajputana, Afghanistan and Western Asia.

Most old stems are hollow. Heartwood reddish-brown, very hard.

The wood is chiefly used for fuel. The branches and twigs are used for the walls and roofs of huts.

## CALOPHYLLUM.

**Calophyllum inophyllum**, Linn., GUTTIFERÆ.

THE ALEXANDRIAN LAUREL.

Vern. — *Sultana champa*, HIND., BENG.; *Poonang*, URIYA; *Pinnay*, TAM.; *Pána*, *pánás*, TEL.; *Wáma*, *pinekai*, KAN.; *Undi*, MAR.; *Surangi*, *undi*, SIND; *Domba*, CINGH.; *Ponguyet*, BURM.; *Bintangor*, MAL.

An evergreen tree, cultivated in the Western Peninsula, Orissa, South India, Ceylon, Burma, and the Andaman Islands.

Wood reddish-brown, moderately hard, close-grained. Used for masts, spars, railway sleepers, machinery (*Kurs*); also for cabinet work. (*Sibert*.)

		lbs.
W 733.	South Kanara . . . . .	38
B 2257.	Andaman Islands (1866) . . . . .	45
B 2258.	" " " " . . . . .	44
B 2263.	" " " " . . . . .	26

**C. polyanthum**, Wall.

Vern. — *Kandeb*, BENG.; *Kironli*, NEPAL; *Sanglyer*, LEPCHA.

An evergreen tree of Northern and Eastern Bengal, the Khásia Hills, Chittagong and Burma, ascending to 5,000 feet.

Structure the same as that of *C. spectabile*. Mr. Chester says it is used largely in Chittagong for masts, spars and rafters, and sometimes for small boat-building and canoes.

		lbs.
E 1400.	Chittagong . . . . .	44
F 3692.	" Hill Tracts (1882) . . . . .	42
E 2490.	Chenga Forest, Darjeeling Terai . . . . .	38
E 2953.	Chunbati, Darjeeling, 3,000 feet . . . . .	39

These last two have the same structure as *C. polyanthum*, but the wood has a dark-red colour.

**C. spectabile**, Willd.

Syr. — *C. MOONII*, Wight (*Beddome*, xxii.); *C. AMENUM*, Wall in *Paris Exhibition Catalogue*; *C. TETRAPETALUM*, Roxb. (*Fl. Ind.*, ii, 608.)

Vern. — *Panta-ka*, *kyandoo*, BURM.; *Dakar táladá*, AND.; *Lal chuni*, HIND. (FROM ANDAMANS.)

A tall evergreen tree of Tenasserim and the Andaman Islands

Wood light-red, shining, cross-grained, moderately hard. Is used for masts and spars; also for planking, for which purpose it has lately been used in building barracks in the Andamans.

		lbs.
B 525.	Andaman Islands . . . . .	39
B. 1992	" " ( <i>Kurs</i> , 1866) . . . . .	38
B 3197.	" " ( <i>Home</i> , 1874, No. 14, <i>Teeni</i> ) . . . . .	39



CAMELIA.

225 *Calophyllum tomentosum*, Wight.

THE POON SPAR TREE.

Syn.—*C. ELATUM*, *Beddome* (t, 2.)

Vern.—*Poon, poone*, MAL.; *Pongoo*, TAM.; *Siri poone kuve, bobbi*, KAN.

A large, tall evergreen tree of the evergreen forests of the Western Coast from Kanara southwards.

Structure the same as that of *C. spectabile*.

Yields the Poon spars of commerce, good spars often fetching large prices. It is also used for building and bridge-work.

W 762. South Kanara	lbs. 4
D 1279. Anamalai Hills	32
	38

226 *C. Wightianum*, Walk.

Syn.—*C. DECIPIENS*, *Wight* (I.c., 106.)

Vern.—*Kalpoon, kull-ponné*, KAN.; *Cheru pinnay*, TAM.

An evergreen tree, met within the Western Ghâts from the Konkan to Travancore.

Wood hard, red. *Beddome* says the timber is much esteemed and valuable for engineering purposes.

W 861. South Kanara	lbs. 45
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CALOTROPIS.

227 *Calotropis gigantea*, R. Br., ASCLEPIADACEÆ.

Vern.—*Akundá*, BENG.; *Madár, ark, ak*, HIND.; *Mándúrá, akadá*, BOM.; *Auk*, NEPAL; *Yercum*, TAM.; *Yerica*, MAL.; *Nella-jilledu, yekka, jilledu chettu*, TEL.; *Arka, pratápasa*, SANS.; *Ushar*, ARAB.; *Kharak*, PERS.; *Mayo-beng*, BURM.

A large shrub, found all over India in waste places and along the road sides. The fibre is exceedingly strong and good; the hairs from the seeds are largely used for stuffing pillows; the wood is used for making charcoal; and the root and the milky sap are regarded as valuable medicines.

CAMELIA.

228 *Camelia drupifera*, Lour., TERNSTRØMIACEÆ.

Syn.—*C. KISSI*, *Wall*.

Vern.—*Kissi, hingua*, NEPAL; *Chashing*, BHUTIA, LEPCHA.

A large evergreen shrub of the Eastern Himalaya, Assam and Khásia Hills, ascending to 8,000 feet, of Tenasserim and the Andaman Islands.

Wood pink, moderately hard, close and even-grained.

E 3111. Kalimpung, Darjeeling, 4,500 feet	lbs. ...
E 3358. Sivoke Hills, Darjeeling, 1,500 feet	60

229 *C. Thea*, Link.

THE CHINA TEA PLANT.

Syn.—*C. THEIFERA*; *Griff* (*Hook, Fl. Ind.*, i, 292) (THE ASSAM TEA PLANT.)

Vern.—*Cha*.

A shrub with thin grey bark, cultivated in many districts in India, especially in Kangra, Kulu, Dehra Dún, Kumaun, Darjeeling, the

## CAPPARIS

Western Dúars, Assam, Cachar, Chittagong and Hazáribagh, in Northern India, as well as in the Nilgiri Hills and Ceylon.

Wood grey, soft.

O 3142. Dehra Dún . . . . . lbs.  
56

## CANARIUM.

*Canarium bengalense*, Roxb., BURSERACEÆ.

Vern.—*Goguldhúp*, NEPAL; *Narokpa*, LEPCHA; *Tekreng*, GARO; *Bisjang*, dhúna, ASS.

A tall tree with straight cylindrical stem, of the eastern moist zone, Eastern Himalaya, Bengal and Burma.

Wood shining, white when fresh cut, turning grey on exposure, soft, even-grained, does not warp, but decays readily. It is much esteemed in Bengal for tea-boxes, and also for shingles.

E 703. Great Rangít Valley, Darjeeling, 3,500 feet . . . lbs.  
E 3592. Sukna Forest, Darjeeling Terai . . . 28  
...

*C. strictum*, Roxb.

THE BLACK DAMMAR TREE.

Vern.—*Kala dammar*, HIND., BENG., GUZ.; *Karapu*, *kongiliam*, *karapu dammar*, TAM.; *Manda-dhúp*, KAN.; *Thelli*, MAL.; *Nala rojan*, TEL.

A tall tree of South India.

## CAPPARIS.

*Capparis aphylla*, Roth., CAPPARIDÆ.

Vern.—*Karil*, PU.; *Kiral*, SIND; *Kari*, BEHAR.

A small tree, found in the Punjab, Sind, Rajputana and the Dekkan.

Wood light-yellow, turning brown on exposure, shining, very hard and close-grained. Used for small beams and rafters in roofs, for the knees of boats, for oil-mills and agricultural implements; it makes a good firewood, and is not eaten by white-ants.

P 444. Ajmere . . . . . lbs.  
P 892. Multán . . . . . 53  
P 941. " . . . . .  
P 3056. " . . . . .

*C. grandis*, Linn. f.

Syn.—*C. BISPERMA*, Roxb. (*Fl. Ind.*, ii, 569.)

Vern.—*Guli*, *regguti*, *ragota*, TEL.

A small tree of the Chanda district and eastern part of the Dekkan, the Eastern Ghâts and Carnatic.

Wood white, moderately hard. No heartwood, no annual rings; durable; much used by the natives in the Madras Presidency.

C 1134. Ahiri, Central Provinces . . . . . lbs.  
46

CARALLIA.

234. *Capparis horrida*, Linn. f.

Syn.—*C. ZEYLANICA*, Roxb. (*Fl. Ind.*, ii, 567.)

Vern.—*His, kareila*, PB.; *Karralura*, OUDH; *Adonda*, TEL.; *Katerni*, GOND; *Gitoran*, AJMERE; *Bagnai*, MONGHYR; *Atanday*, TAM.; *Oserwa*, URIYA.

A climbing thorny shrub, grows in most parts of India and Burma. Wood yellowish-white, moderately hard. Faint, wavy, concentric lines of soft tissue.

P 3244. Ajmere . . . . . lbs.  
47

235. *C. multiflora*, Hook. f. and Th.

Vern.—*Suntri*, NEPAL.

A climbing thorny shrub of the Eastern Himalaya and Upper Burma.

Wood white, moderately hard.

E 3349. Nagri, Darjeeling, 4,000 feet.

236. *C. olacifolia* Hook. f., and Th.

Vern.—*Naski, hais*, NEPAL; *Yhenok*, LEPCHA.

A thorny shrub of the Sub-Himalayan tract from Nepal to Assam chiefly in the undergrowth of sissu forest, along rivers.

Wood white, hard.

E 3297. Balasun, Darjeeling Terai . . . . . lbs.  
44

237. *C. sepiaria*, Linn.

Vern.—*Hiun garna*, PB.; *Kanti kapali*, URIYA.

A shrub, growing in dry places in India and Burma.

Wood white, hard.

P 3242. Ajmere.

C 3580, from Khurdha, Orissa, is this species. The wood resembles that of the Ajmere specimen, but the medullary rays are moderately broad and longer.

CARALLIA.

238. *Carallia integerrima*, DC., RHIZOPHOREÆ.

Syn.—*C. lucida*, Roxb. (*Fl. Ind.*, ii, 481; *Kurz*, i, 451.)

Vern.—*Kierpa*, BENG.; *Palamkat*, NEPAL; *Kujitekra*, ASS.; *Karalli*, TEL.; *Andipunar*, KAN.; *Punschi*, BOM.; *Dawata*, CINCH.; *Bya*, ARRACAN; *Manioga*, BURM.

An evergreen tree with thin, dark-grey bark, found in the Eastern and Western moist zones, in Eastern Himalaya, Bengal, Burma, South India and the Andamans.

Sapwood perishable; heartwood red, very hard, durable, works and polishes well. Used in South Kanara for furniture and cabinet-making, and in Burma for planking, furniture and rice-pounders.

lbs.  
W 743. South Kanara . . . . . 42  
B 308. Burma (1867) . . . . . 47  
B 816. Burma . . . . . 51  
B 2530. Burma (1862) . . . . . 47  
B 2210. Andaman Islands (1866) . . . . . 47  
B 1500. Burma . . . . . ...  
C 3482. Saranda Forest, Chutia Nagpur . . . . . ...  
No. 19. Ceylon Collection (marked *C. zeylanica*) . . . . . 42

**CAREYA.**

## 239

**Syn.**—*C. OBOVATA*, Bl. (*Kurz*, i, 226); *XYLOCARPUS GRANATUM*, Kön.

Used in Burma for house-posts, handles of tools and wheel spokes. Captain Baker in May 1829, in *Gleanings in Science*, spoke of *Pussur* or *Pussooh* as being a jungle wood of a deep purple colour, extremely brittle and liable to warp. He said that native boats made of the best species last about three years, and that the wood, if of good quality, stands brackish water better than sap.

E 402.	Sundarbans	.	.	.	.	.	.	41
B 2514.	Burma (1862)	.	.	.	.	.	.	42
B 2239.	Andamans (1866)	.	.	.	.	.	.	41
E 3696.	Sundarbans (1882)	.	.	.	.	.	.	40

## 240

Sapwood whitish, large; heartwood dull red, sometimes claret-coloured, very dark in old trees, even-grained, beautifully mottled, seasons well, very durable, moderately hard. The specimens brought by **Dr. Wallich** from Tavoy in 1828, and ~~that~~ brought from the Mishmi Hills by **Dr. Griffith** in 1836, were quite sound on being cut up, though they had been stored for 50 years in Calcutta. The wood is little used except for agricultural implements. It is being tried for railway sleepers on the Eastern Bengal and Northern Bengal State Railways, but the result of the experiment is not yet known. **Kurz** says it is used in Burma for gun-stocks, house-posts, planking, carts, furniture and cabinet-work. It stands well under water.

O 208.	Garhwal (1868)	.	.	.	.	.	lbs.
O 228.	"	.	.	.	.	.	53
O 1479.	Kheri, Oudh	.	.	.	.	.	53
C 1131.	Ahri Reserve, Central Provinces	.	.	.	.	.	59
C 2747.	Moharli Reserve	"	"	(sapwood)	.	.	58
							37

## CARPINUS.

E 624.	Rakti Forest, Darjeeling Terai	48
E 2378.	Sivoke "	51
E 1441.	Mishmi Hills (Griffith, 1836)	56
B 2703.	Tavoy (Wallich, 1822)	59
B 2685.	" " "	56
B 2710.	" " "	51
B 2226.	Andaman Islands (1866)	55
B 3147.	" (Home, 1874)	56
No. 41.	Ceylon Collection	38

## CARISSA.

241 Carissa Carandas, *Linn.*, APOCYNACEÆ.

Vern.—*Kau nda*, *karúnda*, *garinga*, *karróná*, *timukhia*, *gotho*, HIND.; *Kurumia*, *karamcha*, *bainchi*, BENG.; *Kendakeri*, *kerendo kvli*, URIYA; *Karmurda*, SANS.; *Kalaka*, TAM.; *Kaliwi kayu*, TEL.; *Kareki*, *hegerjige*, KAN.

A bush cultivated for its fruit in most parts of India; said to be wild in Oudh, Bengal, and South India.

Wood white, hard, smooth, close-grained.

C 3511. } Khurdha Forests, Orissa.  
C 3569. }

242 C. diffusa, *Roxb.* (*Fl. Ind.*, i, 689.)

Vern.—*Karúnda*, HIND.; *Kanuwán*, ORAON; *Anka koli*, URIYA; *Gán, garna*, *garinda*, PB.; *San karunda*, URIYA; *Wakoilu*, TEL.

A small, thorny, evergreen shrub, with light-grey bark. Wild in most parts of India, especially in the drier zones and in the plains of the Punjab, the Sub-Himalayan tract up to 4,000 feet, and in Trans-Indus territory; also on the coast of South Andaman. (*Kurz.*)

Wood hard, smooth, close-grained, said when very old (in Kangra) to be black and fragrant. (*Brandis.*) It is generally gregarious, often forming undergrowth in forests of *Pinus longifolia*, bamboo, and occasionally teak. It spreads rapidly in clearings, coppices freely, and makes an excellent fuel. It is used for turning and combs, and to make dry fences.

P. 112. Bhajji, Simla, 4,000 feet.

C. 3518. Khurdha Forests, Orissa.

C. 3649. It kuri, Hazaribagh.

## CARPINUS.

243 Carpinus faginea, *Lindl.*, CUPULIFERÆ.

Vern.—*Shirash*, *imar*, *bijavwi*, PB.; *Gish*, N. W. P.

A moderate sized tree of the Himalaya from the Beas eastward; altitude 4,000 to 7,000 feet.

244 C. viminea, *Wall.*

Vern.—*Charkhri*, *kái*, PB.; *Pumne*, *goria*, *chamkharak*, N. W. P.; *Chukissi*, *konikath*, NEPAL.

A moderate sized tree of the Himalayas, from the Ravi eastward, from 5,000 to 7,000 feet, often near water; and of the Martaban Hills at 5,000 to 6,000 feet.

Wood white, shining, no heartwood, warps in seasoning. The stem

## CASEARIA

is irregular in section like that of the European *Hornbeam*, which it much resembles both in bark and wood, and in general appearance.

H 3098. Sipi, Simla, 6,500 feet . . . . . lbs.  
50

**Cart and Carriage-building**—Woods used for. See APPENDIX.

## CARYOPTERIS.

**Caryopteris Wallichiana**, Schauer, VERBENACEÆ.

Vern.—*Moni, moháni*, KUMAUN; *Shechin*, NEPAL; *Malet*, LEPCHA.

A large shrub with thin grey papery bark, peeling off in vertical strips, met with on the Outer Himalaya, from the Indus to Bhutan, ascending to 3,000 feet.

Wood dark-grey, moderately hard, with the scent of cherry wood.

E 2402. Chunbati, Darjeeling, 2,000 feet . . . . . lbs.  
E 3668. Rinkinpung, Br. Bhutan 3,000 feet. . . . . 44

## CARYOTA.

**Caryota urens**, Linn., PALMÆ.

Vern.—*Rungbong, simong*, LEPCHA; *Bara flawar*, ASS.; *Salopa*, URIYA; *Mhár, mardí, mari, jirágú*, TEL.; *Conda-panna, crim-panna, utali-panna*, TAM.; *Bhyni, beina, bagna*, KAN.; *Berli*, MAR.; *Shunda pana*, MAL.; *Kittúl, nepora*, CINGH.; *Hlymban*, MAGH; *Minbo*, BURM.

A beautiful palm, with smooth, annulated stem, met with in the forests of the western and eastern moist zones. On the Western Ghâts it extends to near Mahableshwar. It is common in Burma, Bengal, and Orissa, ascending in Sikkim up to 5,000 feet.

The outer part of the stem is hard and durable and the vascular bundles crowded, black, very large. The wood is strong and durable; it is used for agricultural purposes, water conduits and buckets.

E 2459. Chawa Jhora, Sivoke, Darjeeling . . . . . lbs.  
No. 44. Ceylon Collection . . . . . 71

## CASEARIA.

**Casearia glomerata**, Roxb. (*Fl. Ind.*, ii, 419), CAMYDACEÆ.

Vern.—*Lárjár*, SYLHET; *Burgonli*, NEPAL; *Sugudt*, LEPCHA.

A large evergreen tree, found in Eastern Bengal, ascending to 6,000 feet, and in Chitagong.

Wood yellowish-white, moderately hard, rough. Used for building, charcoal and occasionally for tea-boxes.

E 691. Chuttockpur Forest, Darjeeling, 6,000 feet . . . . . lbs.  
E 2381. " " " " " " . . . . . 45

**C. graveolens**, Dalszell.

Vern.—*Chilla, náro, katchera, pimpri*, HIND.; *Rari*, KOL; *Beri*, KHARWAR; *Newri*, SONTHAL; *Girchi*, GOND; *Rewat*, KURKU.

A small deciduous tree, found in the Sub-Himalayan tract from the Chenab eastwards, in Oudh and Central India.

## CASSIA.

Wood light-yellow, moderately hard, rough, even-grained; not used.  
The fruit is used to poison fish.

		lbs.
O	240. Garhwal (1868)	42
O	271. " " "	40
O	1456. Bahraich, Oudh	49
O	399. Kheri, Oudh	...

249 *Casearia tomentosa*, Roxb. (*Fl. Ind.*, ii, 421.)

Vern.—*Chilla*, *chilara*, *bairi*, *bhari*, HIND; *Maun*, MANBHUM; *Men*, *mlsa*, *gan-gudu*, TEL.; *Lainja*, *massei*, *karei*, MAR.; *Roré*, KOL; *Beri*, KHARWAR; *Chorcho*, SONTAL; *Munkuro-kuri*, MAL.; *Girari*, URIYA; *Thundri*, GOND; *Khesa*, KURKU.

A small tree of the Sub-Himalayan tract from the Indus eastwards, of Oudh, Eastern Bengal, and Central and South India.

Wood yellowish-white, moderately hard, rough, close-grained; used to make combs.

		lbs.
O	1363. Gonda, Oudh	41
O	3085. " " "	...
O	3089. Kheri, Oudh	...
C	1183. Ahiri Reserve, Central Provinces	41
C	2802. Melghát, Berar (young)	38
C	3527. Khurdha Forest, Orissa	43

## CASSIA.

250 *Cassia auriculata*, Linn., LEGUMINOSÆ.

Vern.—*Tarwar*, HIND.; *Tangedu*, *tangar*, TEL.; *Avarike*, KAN.

A shrub of Central and South India.

251 *C. Fistula*, Linn.

THE INDIAN LABURNUM.

Syn.—CATHARTOCARPUS FISTULA, Pers.

Vern.—*Amaltás*, HIND.; *Alash*, *ali*, *kurangal*, *kiár*, *kaniár*, PB.; *Raj-briksh*, *kitola*, KUMAUN; *Chimkani*, SIND.; *Gurmala*, GUZ.; *Sundali*, *bandarlali*, BENG.; *Nunui*, SONTAL; *Sonawir*, MAL.; *Hari*, KOL.; *Dunrás*, KHARWAR; *Sandari*, URIYA; *Kitwáli*, *kitoli*, *itola*, *shimarra*, *sim*, N.-W. P.; *Warga*, OUDH; *Jaggurwah*, *raila*, *hirojah*, *karkacha*, C. P.; *Raella*, BAIGAS; *Jaggra*, *jugaria*, *kambar*, *vera*, GOND; *Banag*, *bangru*, KURKU; *Bahawah*, *baya*, *bawa*, MAR.; *Raj-birij*, NEPAL; *Sonatu*, GARO; *Bonurlati*, *bonurlauri*, PALAMOW; *Sunaru*, ASS.; *Bandolat*, CACHAR; *Kone*, *sirikone*, TAM; *Reylu*, *rela*, *suvarnam*, *konay*, TEL.; *Kaki*, TAM.; *Kakke*, KAN.; *Ahalla*, CINGH.; *Glooshway*, *gnoogyee*, BURM.

A moderate sized deciduous tree of the Sub-Himalayan tract, ascending to 4,000 feet, and throughout India and Burma.

Sapwood large, heartwood varying in color from grey or yellowish-red to brick-red, very hard to extremely hard. Sharp, thin, white, concentric lines which may possibly be annual rings.

The wood is very durable, but rarely of sufficiently large size for timber. It makes excellent posts, and is good for carts, agricultural implements and rice-pounders.

		lbs.
P	101. Sutlej Valley, Punjab, 3,000 feet	...
P	437. Ajmere	...
P	439. " " "	61
O	244. Garhwal (1868)	52

## CASSIA.

O 333.	Gorakhpur (1868)	52
C 1154.	Ahiri Reserve, Central Provinces	56
C 3544.	Khúrdha Forests, Orissa	58
E 579.	Lohagarhi Forest, Darjeeling Terai	62
E 2352.	Bamunpokri, Darjeeling Terai	62
E 783.	Kamrúp, Assam	60
W 864.	South Kanara	62
D 2052.	Mysore	58
D 1076.	North Arcot, Madras	73
B 2525.	Burma (1862)	66

The difference between the wood of this tree and that of *Ougeinia dalbergioides* consists in this, that in the former the patches of white soft tissue are continuous, forming belts; whereas in *Ougeinia* they are rhomboidal, pointed at the ends, and form interrupted belts.

**Cassia marginata, Roxb. (Fl. Ind., ii, 338.)**

252

Syn.—C. ROXBURGHII, D.C. (Beddome, t, 180.)

Vern.—Urimidi, uskiamen, TEL.; Ngoomee, BURM.; Ratoo-waa, CINGH.

A small deciduous tree, with deeply cracked, brown bark, found in Madras, Ceylon and Burma (Thoungyeen forests).

Heartwood light-brown, very hard. The wood is well adapted for turning, naves of wheels and handles of tools.

B 301.	Burma (1862)	lbs.	59
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**C. siamea, Lamk.**

253

Syn.—C. FLORIDA, Vahl. (Beddome, t, 179); SENNA SUMATRANA, Roxb. (Fl. Ind., ii, 347.)

Vern.—Beati, manje konne, TAM.; Sime tangadi, KAN.; Waa, CINGH.; Maisalee, BURM.

A moderate sized tree with smooth bark. found in South India, Burma and Ceylon.

Sapwood whitish, rather large. Heartwood dark-brown, nearly black, very hard; very durable. Used in Burma for mallets, helms and walking-sticks; in South India it is little known, but it is considered one of the best kinds of fuel for locomotives in Ceylon. (Beddome.)

D 1080.	North Arcot	lbs.	58
B 2526.	Burma (1862)	54	
B 2712.	Tavoy (Wallich, 1828)	52	
E 3710.	R. B. Gardens, Calcutta (1881)	45	

**C. sp?**

254

Major Ford sent from the Andaman Islands, in 1866, a sample of a hard durable wood, olive-brown, with a structure very similar to that of *Ougeinia dalbergioides*. Evidently a common Andaman wood and known by the name of *Gnoogyee*.

B 2260.	Andaman	lbs.	45
B 2295.	„	46	

**C. timoriensis, DC.**

255

Vern.—Arremene, CINGH.; Young maisalee, BURM.

A handsome, small, evergreen tree, met with in Burma and Ceylon. Wood dark-brown, nearly black. Structure resembling that of

*C. siamea*; used in Ceylon for building and furniture.

No. 4.	Ceylon Collection	lbs.	57
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CASTANOP-  
SIS.

## 256 Cassia Tora, Linn.

THE FÆTID CASSIA.

**Vern.**—*Chakunda*, HIND. and BENG.; *Tānkald*, *kovariya*, BOM.; *Tarota*, DEC.; *Ushit-tagari*, TAM.; *Tagarisha chettu*, TEL.; *Dan-ky-wai*, BURM.; *Prabanatha*, SANS.

A gregarious under-shrub, from 1 to 2 feet in height, found everywhere in Bengal, widely spread and abundant throughout India.

## CASTANOPSIS.

## 257 Castanopsis indica, Alph. DC., CUPULIFERÆ.

**Syn.**—*CASTANEA INDICA*, Roxb. (*Fl. Ind.*, iii, 643; *Kurs*, ii, 478); *QUERCUS SERRATA*, Roxb. (*l. c.*, 641, probably.)

**Vern.**—*Banj katús*, NEPAL; *Kashiorón*, LEPCHA; *Serang*, ASS.; *Charang*, GARO; *Tailo*, CACHAR; *Nikari*, *gol-shingra*, SYLHET.

A moderate sized evergreen tree met with in Nepal, Eastern Bengal, Assam and Chittagong, ascending to 5,000 feet.

Wood grey, hard. It splits well and is very largely used for shingles in Darjeeling. It coppices freely, and is often pollarded and the branches burnt for manure.

E 404.	Dalka Jhar, Darjeeling Terai	lbs.
E 681.	Khookloong Forest, „	43
E 1254.	Tēzpur, Assam	45
		44

## 258 C. rufescens, Hook. f. and Th.

**Vern.**—*Dalné katús*, NEPAL; *Sirikishu*, LEPCHA; *Hingori*, ASS.

A very large evergreen tree of Sikkim Himalaya, from 6,000 to 9,000 feet.

Wood grey, hard. Annual rings marked by narrow belts of firmer texture. It is used in Darjeeling for house-building, agricultural implements and other purposes, exactly as that of *Quercus pachyphylla*, which it very closely resembles. It makes excellent shingles, and is more valuable as planking and posts wherever exposed to wet than other species of this genus.

E 354.	Rangbúl Forest, Darjeeling, 7,000 feet	lbs.
E 2457.	„ „ „ „	47
		45

## 259 C. tribuloides, Alph. DC.

**Syn.**—*CASTANEA TRIBULOIDES*, *Kurs* (ii, 480); *QUERCUS FEROX* and *Q. ARMATA*, Roxb. (*Fl. Ind.*, iii, 639, 640.)

**Vern.**—*Támari*, *katónj*, KUMAUN; *Musré katús*, *kotur*, *chisi*, *maku*, *shingali*, NEPAL; *Bar hingori*, *kanta singar*, ASS.; *Dingsaot*, KHASIA; *Singhara*, TIPPERAH; *Kanta tal batana*, CHITTAGONG; *Kyansa*, BURM.

An evergreen tree, met with in South-East Kumaun, Nepal, Eastern Bengal, ascending from the plains to 6,000 feet, in Chittagong and hills in Burma, above 3,000 feet.

Wood grey, moderately hard. Annual rings marked by darker lines. Used for planking, and is good and durable; also for shingles.

The tree coppices admirably, and with *C. indica*, *Quercus spicata* and *Engelhardtia* should be grown wherever firewood and charcoal forests are required, as they often are by planters.

E 626.	Dulka Jhar, Darjeeling Terai	lbs.
E 495.	Khookloong Forest, „	32
		39

## CEDRELA

260

## CASTANOSPERMUM.

**Castanospermum australe, A. Cunn., LEGUMINOSÆ.**

THE MORETON BAY CHESTNUT.

A tree of subtropical regions of Australia, occasionally planted for ornament.

Wood white, with a yellowish tinge, hard.

E 3653 Bamanpokri, Darjeeling Terai (from a planted tree).

## CASUARINA.

**Casuarina equisetifolia, Forester, CASUARINACEÆ.**

THE BEEFWOOD OF AUSTRALIA.

Syn.—C. MIRICATA, Roxb.

Vern.—Chouk, TAM.; Serva, TEL.; Kásrike, MYSORE; Tinyu, BURM.; Arn, MAL.

A large evergreen tree, with leafless drooping branches, and branchlets which are deciduous and perform the functions of leaves; found in the coasts of Chittagong, Burma, the Malay Archipelago, North Australia and Queensland; cultivated all over India, except in the north-western portion of the Punjab.

Wood white, brown near the centre, very hard, cracks and splits. It is hard and heavy, and difficult to cut, and according to Skinner, No. 42, weighs 55 lbs. per cubic foot; our specimen gives 62 lbs.

It has been largely planted in North Arcot, South Arcot, Madras and other districts of the Madras Presidency for fuel, for which it is excellent, but it requires to be near the sea-coast and to have water at the roots, at least 10 feet from the surface of the ground. Trees planted in sandy soil often suffer much from drought the first two or three years, the tap-root then finds its way down to about 10 feet and reaching water the tree begins to thrive. It is of course best near the sea, but fine trees may be seen in places in Northern India, especially at Saharanpur and Umballa. *Casuarina* seems to coppice well, and undoubtedly is, in suitable localities, and considering its extremely quick growth and the qualities of its wood, one of the most important trees we have for fuel and other plantations.

E 2465. Calcutta . . . . . lbs.  
62

## CEDRELA.

**Cedrela serrata, Royle, MELIACEÆ.**

Syn.—C. TOONA; Roxb. (Hook, Fl. Ind., i, 568, in part.)

Vern.—Drawi, dalli, dál, dauri, khishing, khinam, N.W. HIM.

A tree of the North-West Himalaya up to 8,000 feet.

Heartwood light-red, even, but open-grained, fragrant. Annual rings distinctly marked by broad belts of numerous large pores.

Wood used for the hoops for sieves and for bridges and for many purposes about Simla. The shoots and leaves are lopped for cattle fodder.

H 3181.	Dúngagalli, Hazara, 6,000 feet	. . .	lbs.
H 920.	Hazara, Punjab, 6,000 feet	. . .	38
H 897.	Murree, Punjab, 7,000 "	. . .	29
H 782.	Salán, Chamba, 5,000 "	. . .	28
H 25.	Matiyána, Simla, 7,000 "	. . .	31
H 430.	Deoban, Jaunsar, 5,500 "	. . .	30

E

65

262

## CEDRELA.

In the Monograph of the *Meliaceae* published in 1878 by Casimir de Candolle, the species of *Cedrela* formerly grouped under the one head of *Cedrela Toona*, Roxb., have been separately described.

They are thus distinguished:—

Ovary glabrous—

Leaflets petioled . . . . . *C. serata*, Royle.  
 Leaflets subsessile . . . . . *C. glabra*, C. de Cand.

Ovary hairy—

Leaflets acute at the base . . . . . *C. Toona*, Roxb.  
 Leaflets round at the base . . . . . *C. microcarpa*, C. de Cand.

In the *Trees, Shrubs and Climbers of the Darjeeling District*, three varieties were spoken of and separated as follows:—

- No. 1. Deciduous; flowering March; fruiting June; bark grey-brown, smooth, exfoliating; found in the plains on low land.
- No. 2. Evergreen; flowering October-November; fruiting February and March; bark dark-brown, rough, not exfoliating; found in the lower hills up to 4,000 feet.
- No. 3. Evergreen; flowering June; fruiting November-December; bark light reddish-brown, exfoliating in long flakes; found in the upper hills from 5,000 to 7,000 feet and of great size.

No. 1 is *C. Toona*, Roxb.; No. 2 probably *C. microcarpa*, C. de Cand.; No. 3 probably *C. glabra*, C. de Cand. It would, however, have probably been better to describe No. 1 as 'deciduous in the cold season' and Nos. 2 and 3 as 'deciduous in the rains.' There is perhaps a fifth species.

They may also be distinguished as follows by the capsule:—

Capsule smooth . { capsule round . . . . . *C. Toona*.  
                           " long, pointed . . . . . *C. microcarpa*.  
 Capsule covered with corky tubercles . . . . . *C. glabra*.

Of the Northern Bengal specimens which we have examined, E 360 and E 2333 will be *C. glabra*, while E 655, E 2332, E 3599, E 3619, and E 3623 will be *C. microcarpa*. Some of the Assam, Chittagong and Burma specimens are probably *C. microcarpa*.

No. B 3378 from the Salween, 2,000 feet, is probably *C. multijuga*, Kurz, i., 229.—Vern. *Toungdama*, BURM.; *Nee*, KAREN (Trade name, like the other Toon-woods, *Thittkado*.) It has a light, soft, pink wood, with the usual characteristic scent strongly perceptible, and structure resembling that of the other species of Toon, the pores being perhaps more scantily distributed.

Weight, 35·5 lbs. per cubic foot.

(Gamble's *Addenda*.)

263 *Cedrela Toona*, Roxb.

THE TOON OF INDIAN MAHOGANY TREE; MOULMEIN CEDAR.

Vern.—*Tún, túni, ún, maha ním*, HIND.; *Túni, tán, lúd*, BENG.; *Maha jímbo*, URIVA; *Mahlun*, SATPURAS; *Drawi*, PB.; *Túni, bobich, labshi*, NEPAL; *Simal*, LEPCHA; *Poma, henduri poma*, ASS.; *Súli, máli*, SALEM; *Kal kilingri*, NILGIRIS; *Sandani vembu*, TINNFVELLY; *Tundú kempú gandaghei*, KAN.; *Nogé, belandi*, COORG; *Deodari, kúruk*, MAR.; *Chikado, tseetkado*, MAGH; *Shurúbed*, CHAKMA; *Thitkado*, BURM.

A large tree, about 50 to 60 feet in height, growing in the Sub-Himalaya in forests, Bengal, Burma and South India, ascending to 3,000 feet in the North-West Himalaya and in Sikkim to 7,000 feet.

Wood brick-red, soft, shining, even but open-grained, fragrant, seasons readily, does not split nor warp. Annual rings distinctly marked by a belt of large and numerous pores.

## CEDRUS.

It is durable and is not eaten by white-ants; it is highly valued and universally used for furniture of all kinds, and is also employed for door panels and carving. From Burma it is exported under the name of *Moulmein Cedar*, and as such is known in the English market. It there fetches about Rs. 65 per ton, the cost of cutting and delivery being Rs. 44, according to Major Seaton. In North-West India it is used for furniture, carvings and other purposes. In Bengal and Assam, it is the chief wood for making tea-boxes, but is getting scarce on account of the heavy demand. The Bhutias use it for shingles and for wood-carving; they also hollow it out for rice pounders. It is, or rather used to be, for very large trees are now rather scarce, hollowed out for dug-out canoes in Bengal and Assam. In Bengal, Assam and Burma it grows to a very large size, trees 20 feet girth with a height of 80 to 100 feet of clear stem being not uncommon in forests which have been only little worked like those in Dumsong and in some parts of the Chittagong Hill Tracts. At page 91 of the *Indian Forester*, Vol. i., the cubic contents of four trees in the Reyang Valley, Darjeeling, are given as 211, 375, 720 and 400 cubic feet respectively; the third of these had a mean girth of 12 feet and a length of 80 feet, while the second had a girth of 20 feet. It is easily propagated from seed, but the seeds being very small and light, the seed-beds must be sheltered till the seedlings have well come on. It also coppices freely.

		lbs.
P 1191.	Madhopur, Punjab . . . . .	35
H 8.	Simla, Punjab . . . . .	37
H 5.	Sirmur, Punjab . . . . .	...
O 214.	Garhwal, 1868 . . . . .	36
C 177.	Mandla, Central Provinces, 1871 . . . . .	37
E 360.	Tukdah, Darjeeling, 5,000 feet . . . . .	34
E 2333.	Darjeeling, 6,000 feet . . . . .	34
E 655.	Bamunpokri, Darjeeling Terai . . . . .	30
E 2332.	Sukna, Darjeeling, 2,000 feet . . . . .	36
E 640.	Kamrup, Assam . . . . .	44
E 1266.	Tezpur, Assam . . . . .	34
E 1229.	Sibsagar, Assam . . . . .	31
E 712.	Chittagong . . . . .	—
D 1054.	Salem, Madras . . . . .	39
W 763.	South Kanara . . . . .	29
B 272.	Burma, 1867 . . . . .	35
B 803.	Thasrawaddi, Burma . . . . .	38
No. 18.	Salem Collection . . . . .	35
No. 19.	" " (marked <i>Chickrassia tabularis</i> ) . . . . .	37

## CEDRUS.

*Cedrus Deodara*, Loudon, CONIFERÆ.

## DEODAR, HIMALAYAN CEDAR.

Syn.—PINUS DEODARA, Roxb. (*Fl. Ind.*, iii, 651.)

Vern.—*Nakhtar Imansa*, AFG.; *Diār*, *deodār*, *dedwar*, *daddr*, HAZARA, KASHMIR, GARHWAL, KUMAUN; *Palúdar*, HAZARA; *Kelu*, *keol*, *kilar*, *kilei*; CHENAB to JUMNA; *Kelmang*, KUNAWAR; *Giam*, TIBET.

A very large and tall tree, found in the North-West Himalaya, between 4,000 and 10,000 feet, extending east to the Dauli river, a tributary of the Alaknanda below the Niti Pass, in the mountains of Afghanistan and North Beluchistan.



**CELAS-  
TRUS.**  
265

## 265

1.

266

267

268

269

CEPHALOS-  
TACHYUM.

## CELTIS.

270 *Celtis australis*, Linn., URTICACEÆ.

Vern.—*Kharak*, SIMLA, KUMAUN; *Tagho, takhām*, AFG.

A moderate sized deciduous tree, found in the Suliman and Salt Ranges, in the Himalayas from the Indus to Bhutan, ascending to 8,500 feet, and in the Khásia Hills.

Wood grey & yellowish-grey, with irregular streaks of darker colour. It is tough and strong, and is used for oars, whip handles and for other purposes requiring toughness and elasticity. The tree is largely planted about villages in the North-West Himalaya for shade and fodder.

H 36.	Julung, Simla, 5,000 feet	lbs.
		47

271 *C. caucasica*, Willd.

Vern.—*Bather*, PB.

A moderate sized tree, found in Afghanistan, Beluchistan, Salt Range, Hazara and Kashmir.

Wood light-yellow, hard & very hard. Structure resembling that of *C. australis*.

H 932.	Hazara	lbs.
H 3169.	Dungagalli, Hazara	44
		...

272 *C. tetrandra*, Roxb. (*Fl. Ind.*, ii, 63.)

Vern.—*Kúmsúm, sungsum*, LEPCHA; *Haktapaṭia*, ASS.

A tall tree of the outer Himalaya, from Kumaun eastwards, and the Western Ghâts.

Wood greyish-white, moderately hard. Used in Assam for planking and canoes.

E 669.	Bamunpokri Forest, Darjeeling Terai	lbs.
E 707.	Great Rangit Valley, Darjeeling	36
		37

273 *C. Wightii*, Planch.

Vern.—*Vella-thorasay*, TAM.; *Tella-káká-mushti*, TEL.

A small evergreen tree of the mountains of South India, and the Andaman Islands.

Wood greyish-white, very hard, close-grained. Annual rings indistinctly marked by a narrow belt without pores.

D 1089.	Madura, Madras	lbs.
		53

## CEPHALOSTACHYUM.

274 *Cephalostachyum capitatum*, Munro, GRAMINEÆ.

Vern.—*Gobia, gopi*, NEPAL; *Payong*, LEPCHA; *Sili, sullea*, KHASIA.

Found in Sikkim and the Khásia Hills.

This bamboo has stems 12 to 30 feet, thin, yellow, semi-scandent, strong, with long internodes of about 2½ feet; used for bows and arrows by the Lepchas. It is often gregarious. It flowered in Sikkim in 1874. (*Gamble.*)

E 1353.	} Dumsong, Darjeeling.
E 3429.	

**Cephalostachyum latifolium, Munro.**

A species with large leaves, found in Bhutan.

**C. pallidum, Munro.**

Vern.—*Beti*, Ass.

This bamboo has shrubby stems. It grows in the Mishmi Hills and in Ava.

**C. pergracile, Munro.**

• Vern.—*Tinwa, kengwa*, BURM.

A bamboo of Burma; common in upper mixed forests; often gregarious. It has stems 40 to 50 feet.

B 1317. Toungoo.

**CERIOPS.**

275

276

277

**CERATONIA.****Ceratonia siliqua, Linn., LEGUMINOSÆ.**

THE LOCUST-TREE; THE CAROB TREE; ALGAROA OF SPAIN.

Vern.—*Kharnáb, nábtí* (the pods), P<sub>ER</sub>.

A slow-growing evergreen tree, indigenous in Spain and Algeria, the eastern part of the Mediterranean region, and in Syria.

Wood hard, heavy, excellent as fuel, and valued for cabinet work. (*Brandis.*)

No. 3266. Saharunpur.

278

**CERBERA.****Cerbera odollam, Gaertn., APOCYNÆ.**

Vern.—*Dabúr, dhakur*, BENG.; *Kada-má, katarali*, TAM.; *Gon kadura*, CINGH; *Ka-lwah*, BURM.

An evergreen tree of the coasts of India and Burma.

Wood grey, very soft, spongy. Annual rings marked by a sharp line. It is only occasionally used for firewood.

E 400. Sundarbans . . . . . lbs.  
21

279

**CERIOPS.****Ceriops Candolleana, Arnott., RHIZOPHOREÆ.**

Vern.—*Kirrari, kírí, chauri*, SIND.; *Goran*, BENG.; *Madá*, AND.

A small, evergreen tree, met with on the muddy shores and tidal creeks of India and the Andaman Islands.

Wood red, hard; used in Sind for the knees of boats and other purposes; in Lower Bengal for house-posts and for firewood.

B 1985. Andaman Islands (*Kurs*, 1866) . . . . . lbs.  
E 3700. Sundarbans . . . . . 63  
...

280

**C. Roxburghiana, Arnott.**

Vern.—*Garán* or *Ghorán*, BENG.; *Kapyaing*, BURM.

A large shrub of the coasts of Chittagong down to Tenasserim. (*Kurs.*)

Weight of the wood, 46 lbs. per cubic foot.

281



## CHLOROXYLON.

## CHÆTOCARPUS.

282 *Chaetocarpus castaneacarpus*, Thw., EUPHORBIACEÆ.Vern.—*Būkhokra*, BENG.; *Haddoka*, CINGH.

A moderate sized tree, found in the Khásia Hills, Eastern Bengal, Burma, the Andaman Islands, and Ceylon.

Wood light-red, moderately hard, close-grained; used in Ceylon for building.

No. 34. Ceylon Collection (*C. pungens*). . . . . lbs.  
58

## CHICKRASSIA.

283 *Chickrassia tabularis*, Adr. Juss., MELIACEÆ

THE CHITTAGONG WOOD.

Syn.—SWIETENIA CHICKRASSA, Roxb.

Vern.—*Chikrassi*, BENG.; *Boga poma*, ASS.; *Aglay, agal, eleutharay*, TAM.; *Madagari vembu*, TEL.; *Ganti malle*, SALEM; *Dalmara*, KAN.; *Pabba*, MAR.; *Main*, HYDERABAD; *Saiphra, sey barasi*, MAGH; *Chegarasi*, CHAKMA; *Yimmah, yengma*, BURM.; *Arrodah*, AND.

A large tree, native of Eastern Bengal, South India, and Burma.

Heartwood hard, varying from yellowish-brown to reddish-brown, with a beautiful satin lustre, seasons and works well; sapwood of a lighter colour. The wood is used for furniture and for carving.

		lbs.
E 1260.	Tezpúr, Assam . . . . .	40
E 2197.	Nowgong, Assam . . . . .	45
E 1401.	Chittagong . . . . .	49
W 764.	South Kanara . . . . .	43
W 1218.	North Kanara . . . . .	44
B 2516.	Burma (1862) . . . . .	52
E 3689.	Chittagong . . . . .	55
E 3678.	Sukna Forest Depot . . . . .	54

The last specimen is a wood of a light red lustrous colour, having the structure of *Chickrassia tabularis*, a tree, which has not as yet been described, from Sikkim.

## CHLOROXYLON.

284 *Chloroxylon Swietenia*, DC., MELIACEÆ.

SATIN WOOD.

Syn.—SWIETENIA CHLOROXYLON, Roxb. (*Fl. Ind.*, ii, 400.)Vern.—*Behra, girya, behru, bihri*, C. P.; *Sengel, sali*, KOL; *Bharhál*, KARWAR; *Bhira*, GOND; *Bhirwa*, BAIGAS; *Múdúdad*, TAM.; *Billu, bilgu*, TEL.; *Burús, purúsh*, TAM.; *Behru*, URIYA; *Halda, bheria*, MAR.; *Huragalu*, MYSORE; *Burute, mal burute*, CINGH.

A moderate sized deciduous tree, found in Central and South India, and Ceylon.

Wood very hard, yellowish-brown, the inner wood of a darker colour, but no distinct heartwood, with a beautiful satiny lustre; seasons well. Annual rings distinct.

It is used for agricultural implements, cart-building, furniture, and picture frames. In Madras it is prized for ploughs and oil-mills, and is found to stand well under water. It has been tried as a substitute for boxwood in engraving, but has not been found suitable;

## CINCHONA

it is however good for turning. It is imported into England for cabinet-work, and the backs of brushes.

C 1153.	Ahiri, Central Provinces .	. . . . .	lbs.
C 1412.	Seoni, Central Provinces .	. . . . .	49
C 2742.	Jamui, Berar .	. . . . .	52
C 1239.	Gumsūr, Madras .	. . . . .	56
C 1304.	" " " " " "	. . . . .	56
C 3443.	Seemah Reserve, Palamow.	. . . . .	
C 3572.	Khurda Forests, Orissa .	. . . . .	57
D 2926.	Madras.	. . . . .	
D 1069.	North Arcot .	. . . . .	61
No. 20.	Salem Collection .	. . . . .	61
No. 8.	Ceylon Collection .	. . . . .	65
No. 52.			

## CHONEMORPHA.

**Chonemorpha macrophylla, G. Don., APOCYNÆE.**

**Syn.**—ECHITES MACROPHYLLA, *Roxb.*

**Vern.**—*Gar bardero*, HIND.; *Yokchiounrik*, LEPCHA.; *Harki*, SYLHET.

A large climber with milky sap, met with in North and East Bengal.

**CHRYSOPHYLLUM.**

**Chrysophyllum Roxburghii, G. Don., MELIACEÆ.**

## THE STAR APPLE.

**Syn.**—*C. ACUMINATUM*, Roxb. (*Fl. Ind.*, i, 599.)

**Vern.**—*Petakara*, BENG.; *Pithogarkh*, ASS.; *Hali*, KAN.; *Tarsi*, MAR.

*Lawúlú*, CINGH.; *Thankya*, BURM.

An evergreen tree of Bengal, Burma, Western Ghâts, and Ceylon.

Wood white, close-grained, moderately hard. Pores small, in short radial lines between the numerous, very fine, medullary rays. It is used for building.

No. 48.	Ceylon Collection (called <b>Sideroxylon</b> , sp.)	lbs.
		39

## CINCHONA.

**Cinchona Calisaya, Weddell, RUBIACEÆ.**

## YELLOW BARK.

Cultivated in Sikkim at moderate elevations.

Wood reddish-grey, moderately hard, even-grained. Pores small, in short radial lines. Medullary rays fine, closely packed.

It yields perhaps the most valuable of the Cinchona barks, rich in alkaloids, among which quinine forms half to four-fifths.

E 1358. } Rangbi, Darjeeling, 3,700 feet.  
E 3158. }

**C. officinalis, Linn.**

LOXA or CROWN BARK.

Cultivated at high elevations on the Nilgiris, in Ceylon, and in Sikkim, but not extensively.

## CINNAMOMUM.

Wood yellowish-grey, similar in structure to that of *C. Calisaya*. Its bark is rich in alkaloids, of which more than one-half is quinine.

E 1356. } Rangbi, Darjeeling, 3,700 feet.  
E 3159. }

289 *Cinchona succirubra*, Pavon.

## RED BARK.

Cultivated on the Nilgiris and other hills of South India, at the plantations of Rangbi and Poomong in Sikkim, on the hills east of Tougoo, in Burma, and in parts of the Satpura Range in Central India.

Wood yellow, moderately hard. Pores small in radial lines; medullary rays closely packed, fine and very fine.

This species thrives at a lower elevation than the others, but is comparatively poor in quinine, though rich in cinchonine and cinchonidine. From this species is chiefly derived the "Cinchona Alkaloid," which is now largely manufactured at the Government Plantation of Rangbi.

E 1357. } Rangbi, Darjeeling, 3,700 feet.  
E 3157. }

## CINNAMOMUM.

290 *Cinnamomum glanduliferum*, Meisn., LAURACEÆ.

## THE NEPAL CAMPHOR WOOD.

Vern.—*Malligiri*, *marisgiri*, NEPAL; *Rohu*, LEPCHA; *Gunserai*, MECHI, ASS.; *Gundroi*, CACHAR.

A large tree of South Himalaya from Kumaun eastwards, Assam, the Khásia Hills, and Sylhet.

Wood rough, pale-brown, highly scented, with a strong smell of camphor when fresh cut; has a certain lustre. It distantly resembles that of an *Albizia* on a vertical section, but is rougher; it is soft to moderately hard, even-grained. It is durable, easily worked, is not touched by insects. Used in Assam for canoes and boat-building; in Sikkim for boxes, almirahs, and other articles, also for planking. It is being tried for sleepers.

E 670.	Dulka Jhar, Darjeeling Terai	lbs.
E 2413.	Tista Valley, Darjeeling	38
E 628.	Eastern Dúars, Assam	37
E 639.	Kámrúp, Assam	39
E 2304.	" "	34
E 2187.	Nowgong, Assam	40
		44

291 *C. obtusifolium*, Nees.

Syn.—*LAURUS OBTUSIFOLIA*, Roxb. (*Fl. Ind.*, ii, 302.)

Vern.—*Tespat*, *ramtespat*, *kinton*, BENG.; *Bara singoli*, NEPAL; *Nupsor*, LEPCHA; *Patichanda*, ASS.; *Dupatti*, MECHI; *Krowai*, MAGH.; *Loolengkyau*, BURM.

An evergreen tree, with grey aromatic bark, quarter inch thick, of the outer North-East Himalaya, ascending to 7,000 feet, of Eastern Bengal, Burma, and the Andaman Islands.

Wood reddish-grey, moderately hard, shining, mottled on a vertical section by the medullary rays, the pores containing a gummy substance which exudes copiously on the wood being wetted.

E 498.	Sukna Forest, Darjeeling Terai	lbs.
E 693.	Sepoydura Forest, Darjeeling, 5,500 feet	44
		38

**Cinnamomum pauciflorum, Nees**Vern.—*Dinglatterdop*, KHÁSIA.

Met with in the Assam Valley, Khásia Hills, and Sylhet.

Wood light-red, very aromatic, beautifully mottled on a radial section by the medullary rays; rough, hard.

E 798.	Khásia Hills, 5,000 feet	lbs.
		39

**C. Sp.**Vern.—*Hmanthin*, BURM.

Met with in South Tenasserim.

Wood white with a pink tinge, shining, moderately hard, highly scented. It is plentiful at Tavoy and Mergui, where it is used for building.

B 1946.	Tavoy	lbs.
		43
B 2482	"	36

**C. Sp., perhaps C. Parthenoxylon, Meissn. (Kurz, ii, 289), or Aperula Neesiana, Bl. (Brandis, 383.)**Vern.—*Karaway*, BURM.

Met with in South Tenasserim.

Wood orange-brown, scented, moderately hard, oily to the touch. It resembles the wood of *C. glanduliferum* in structure; durable, used for house-building and shingles.

B 1945.	Tavoy	lbs.
		43
B 2483.	"	46

**C. Sp.**Vern.—*Sinkost*, BURM.

Met with in South Tenasserim; found by the late Mr. Lee in Mergui, but rather scarce.

Wood red, soft, strongly scented.

B 1387.	Tavoy	lbs.
		41

**C.?**

B 298.	Burma (1867)	lbs.
		24
B 2691.	" "	40
B 2695.	" "	39
B 2719.	(Tavoy Wallich.)	36

The above wood specimens are all *Lauraceæ* and probably belong to this genus. They are light, soft, and aromatic.**C. Tamala, Nees.**

CASSIA CINNAMON.

Syn.—*C. ALBIFLORUM*, Nees (*Wight, l.c., t, 140*); *C. CASSIA*, Bl.; (*Kurz, ii, 288*); *LAURUS CASSIA*, Roxb. (*Fl. Ind., ii, 297*.)Vern.—*Dálchini, kirkiria, kakra, sinkam, silkanti*, HIND.; *Chota sinkoli*, NEPAL; *Nupsor*, LEPCHA; *Dopatti*, ASS.

A moderate sized evergreen tree of the Himalaya, occurs sparingly from the Indus to the Sutlej; common thence eastwards between 3,000 and 7,800 feet, in Eastern Bengal, Khásia Hills, and Burma.

Wood reddish-grey, splits and warps, moderately hard, close-grained, slightly scented; not used.

H 937.	Hazara, 4,000 feet	lbs.
		40
H 3162.	Dungagalli, Hazara, 4,000 feet	...
H 427.	Bagiyar Forest, Jaunsar, 4,000 feet	35
E 575.	Sukna Forest, Darjeeling Terai	42

CINNA  
MUM.

292

293

294

295

296

297

## LEMATIS.

## CITRUS.

298 *Citrus Aurantium*, Linn., *RUTACEÆ*.

THE ORANGE.

Vern.—*Narangi*, *naringi*, HIND.; *Kamla nibu*, BENG.; *Suntala*, NEPAL; *Kitq̄bi*, TAM.; *Kittali*, TEL.

Cultivated in most parts of India, especially in Sikkim and Sylhet.

Wood yellowish-white, moderately hard, close and even-grained.

E 3371. Rajabhatkhawa, Western Dúars.

299 *C. decumana*, Willd.

THE SHADDOCK.

Vern.—*Batavi nebu*, *ṁahā nibu*, *chakotra*.

Introduced into India from Java; cultivated in most tropical countries.

300 *C. medica*, Linn, Var. *Limetta*.

THE CITRON, LEMON, LIME.

Vern.—*Bijaura*, *bara nimbu*, HIND.; *Begpura*, *korna nebu*, *lebu*, *nebu*, BENG.; *Jambira*, SANS.

Wild in Burma, Chittagong, Sitakund Hill, Khasia, foot of the Himalaya, ascending to 4,000 feet, and in the hot valleys of the Sikkim, ascending to 4,000 feet.

Wood white, moderately hard.

E 3348. Darjeeling.

## CLEISTANTHUS.

301 *Cleistanthus myrianthus*, Kurz (ii, 370), *EUPHORBIACEÆ*.Vern.—*Mo-man-tha*, BURM.

A moderate sized evergreen tree of the tropical forests of Burma and the Andaman Islands.

Wood moderately hard, reddish-grey.

B. 2474. Andamans (Kurz, 1866) . . . . lbs.  
41

## 302 CLEMATIS, Linn.

Of this and the neighbouring genus, *Naravelia*, 22 species occur in India. They are distributed almost all over India: 11 are found in the North-West Himalayas, 14 in the Eastern Himalaya and Khásia Hills, 2 in Central India, 4 in the Dekkan, 4 on the Western Coast, and 10 in British Burma.The commonest kinds in the North West Himalaya are *C. grata*, Wall.; *C. nutans*, Royle, and *C. Orientalia*, Linn., with white or yellowish-white panicles of flowers; *C. montana*, Ham., with large white star-shaped flowers, and *C. barbellata*, Edgw., with dull purple ones, common in the hill forests; while *C. Buchanania*, DC., is conspicuous for its woolly leaves and large soft tomentose bell-shaped flowers. In the Eastern Himalaya this latter species is the most common, with *G. grewia* flora, DC., covered all over with golden pubescence, and the beautiful pink-flowered *C. Smilacifolia*, Wall, *C. gouriana*, Roxb., and *Naravelia zeylanica*, DC., are common in Bengal, Central India, the Dekkan, and

**COCCULUS**

in Burma, where the second species of *Naravelia* (*N. laurifolia*, Wall.) is also found.

These climbers are all very ornamental, but they have little or no value, though Kurz says that the "stems of the species from Burma while fresh are often used for ropes, and are very strong." Mathieu, *Fl. For.*, p. 9, gives the weight at 24 to 36 lbs. per cubic foot for *C. Vitalba*, Linn, the European Clematis or Traveller's Joy.

**Clematis barbellata**, Edgew. (*Hook. Fl. Ind.*, i. 3) **RANUNCULACEÆ.**

303

- A woody climber of the western temperate Himalaya, Garhwal and Kumaun.

H 2852. Mahasu, Simla, 8,000 feet.

H 3156. Theog, Simla, 7,000 feet.

**C. Buchanania**, DC. (*Hook. Fl. Ind.*, i. 6; *Kurz*, i. 17; *Gamble*, i.)

304

A large woody climber, occurs throughout the temperate Himalaya at 6,000 feet.

H. 2838. Simla, 6,000 feet.

**C. grata**, Wall. (*Hook. Fl. Ind.*, i. 3.)

305

Vern.—*Ghantiali*, HIND.

A climber of the sub-tropical and temperate Himalaya at 2,000 to 3,000 feet.

H 2820. Simla, 6,000 feet.

**C. montana**, Ham. (*Hook. Fl. Ind.*, i. 2; *Gamble*.)

306

Vern.—*Ghantiali*, HIND.

A woody climber of the temperate Himalaya, from the Indus to the Bramaputra, ascending to 12,000 feet, always above 8,500 in Sikkim, and of the Khásia hills above 4,000 feet.

H 2851. Mahasu, Simla, 8,000 feet.

**CLERODENDRON.**

**Clerodendron Colebrookianum**, Wall., **VERBENACEÆ.**

307

Vern.—*Kadungbi*, LEPCHA.

A small evergreen tree with silvery-grey bark of the Sikkim and Khásia Hills, 3,000 to 6,000 feet.

Wood grey, soft.

E 2401. Tukdah Forest, Darjeeling, 5,000 feet

lbs.

29

**COCCULUS.**

**Cocculus laurifolius**, DC. **MENISPERMACEÆ.**

308

Syn.—*MENISPERMUM LAURIFOLIUM*, Roxb. (*Fl. Ind.*, iii, 815.)

Vern.—*Tilpars*, *kakra*, HIND.

A moderate sized evergreen tree of the outer Himalaya from the Ravi to Nepal, ascending to 5,000 feet

Wood greyish-white, soft.

H 2939. Near Suni, Sutlej Valley, 3,000 feet

lbs.

E 2466. Calcutta Botanic Gardens

42

46

## COFFEA.

## COCHLOSPERMUM.

309 *Cochlospermum Gossypium*, DC., BIXINEÆ.

Syn.—*BOMBAX GOSSYPIUM*, Roxb. (*Fl. Ind.*, iii, 169.)

Vern.—*Kimbi, gabdi, ganiár galgal, gaugal*, HIND.; *Hupu*, KOL; *Gan-gam*, GOND; *Kontopalás*, URIA; *Gungú, kong, kanda-gogu*, TEL.; *Tanaku, kongilam*, TAM.; *Helta toware*, KAN.; *Chima-púnyí*, MAL.; *Ganeri*, BHIL; *Ganeri, gunglay*, MAR.

A small deciduous tree, with short, thick, spreading branches; grows in forests at the base of the North-Western Himalaya, from the Sutlej eastward, in Central India, Deccan, and Prome district, and in Burma; commonly planted near temples.

It yields a clear white gum (*Katira*), which, according to *Baden-Powell*, is used in shoe-making. It may be used as a substitute for gum tragacanth. There is very little demand for gums of these classes.

Wood extremely soft, grey; no heartwood.

C 1141. Ahiri Reserve, Central Provinces . . . lbs.  
17

## COCOS.

310 *Cocos nucifera*, Linn., PALMÆ.

THE COIR OF COCOA-NUT FIBRE; PORCUPINE WOOD.

Vern.—*Narel, nariyal*, HIND.; *Narakel*, BENG.; *Tenna, tenga*, TAM.; *Nari kadam tenkaia, kobbari*, TEL.; *Thenpinna, kinghena, tenngina*, KAN.; *Tenga*, MAL.; *Pol*, CINGH.; *Ong*, BURM.; *Jadhirdah*, AND.

A pinnate-leaved palm, with annulate, often curved stem; cultivated throughout tropical India, particularly near the sea-coast.

Outer wood close-grained, hard, and heavy. Vascular bundles black or dark-purple, closely packed in the outer part of the stem on horizontal section, circular or uniform, enclosing vessels and cells.

The wood is commercially known as 'Porcupine wood'; it is used for rafters and ridge poles, house-posts and other building purposes; for spear handles, walking-sticks, and fancy work.

E 417. Sundarbuns . . . . . lbs.  
W 768. South Kanara . . . . . 40  
W 868. " " . . . . . 55  
B 562. Burma . . . . . 52  
No. 72. Ceylon Collection . . . . . 70

## COFFEA.

311 *Coffea arabica*, Linn., RUBIACEÆ.

Vern.—*Bun* (the berry), *Kahwa* (the same roasted and ground.)

A shrub indigenous in Abyssinia and Soudan, cultivated, since the fifteenth century, in Arabia, and introduced thence to India. It has been cultivated in many parts of India, but on a large scale only in Mysore, Coorg, the Western Ghâts, and Ceylon. It is occasionally found running wild in the forests. Growth moderate.

Wood white, moderately hard, close-grained. Pores very fine and extremely fine; medullary rays very fine, numerous.

CORDIA.

## COLEBROOKIA.

**Colebrookia oppositifolia, Sm., LABIATÆ.**

Vern.—*Shakardana*, TRANS-INDUS; *Phis bekkar*, SALT RANGE; *Dúss, sampni*, JHELAM; *Sáali*, CHENAB; *Dúss, RAVI*; *Briáfi, basuti*, BEAS; *Barmera*, SUTLEJ; *Dulshat*, KUMAUN; *Dosál*, NEPAL.

A shrub of the outer Himalaya, from the Indus to Bhutan, ascending to 4,000 feet.

- Wood greyish-white, moderately hard, close-grained. It is used for gunpowder charcoal, and the leaves applied to wounds and sores. (Stewart.)

H 3046. Below Komharsen, Sutlej Valley, 2,500 feet lbs.  
46

Construction and Railway purposes—Timbers suitable for. See

APPENDIX.

Coppice woods—A list of. See APPENDIX.

## CORCHORUS.

**Corchorus capsularis, Linn., and C. olitorius, Linn., TILIACÆ.**

THE JUTE OR PAT FIBRE.

The *reeds* or dried stems after the bark has been removed are used for a variety of purposes, and Royle says they are nearly as valuable to the cultivator as the fibre itself. They are straight, brittle, and readily combustible, and are largely consumed in the preparation of the charcoal used for gunpowder and in the manufacture of fire-works. They are also largely used as tinder in the preparation of native matches. They are formed into the large shady enclosures within which the betel-pepper leaf is cultivated; and from which was derived the idea of the modern orchid-house. One of the most useful purposes to which the jute cane is put is the burning or charring of the hulls of native boats to destroy or expel the insects which may have commenced their depredations upon the timber. For this purpose the boat is raised to a certain height above the ground, and a few bundles of the jute canes are ignited below. Tied in bundles, they are also used for torch-light processions during the Lukhi Pújah; Europeans use them as pea-stakes.

## CORDIA.

**Cordia fragrantissima, Kurz (ii, 207.), BORAGINÆ.**

Vern.—*Toungkalamet*, BURM.

A deciduous tree of Burma, chiefly in the hills of Martaban and Tenasserim.

Wood moderately hard, reddish-brown with darker streaks, beautifully mottled, has a fragrant scent; should be better known. It has a handsome grain, and its fresh, fragrant odour makes it very pleasant to use. Pieces sent to London for sale in 1878 realized £4-10 per ton.

B 285.	Burma (1867).	lbs.	48.
B 1428.	Tharrawaddy, Burma		51



## CORDIA.

315. *Cordia Macleodii*, Hook. f. and Th.

Vern.—*Dhengan*, *dhaman*, *dhāiān*, *dewan*, *dahi*, *dahipalās*, *dihgan*,  
HIND.; *Keuta*, *porponda*, KOL; *Bharwar*, *belaanun*, KARWAR;  
*Jugia*, SONTHAL; *Dhaiwan*, SATTARA; *Daiwas*, *dhaim*, *bhoti*, MAR.;  
*Bot*, GOND; *Lauri kassamār*, KURKU; *Gadru*, AJMERE.

A middling sized deciduous tree of Central and South India, and the Dekkan.

Heartwood light-brown, beautifully mottled with darker veins, even-grained, very hard, strong, tough, and elastic; seasons well and works easily. It is used for furniture, picture-frames, and other ornamental work; also for fishing-rods, which are said to be excellent. It deserves to be better known and more used.

		lbs.
P 3219.	Nagpahar, Ajmere . . . . .	...
C 180.	Mandla, Central Provinces (1870) . . . . .	53
C 2985.	Jubbulpore (1863) . . . . .	50
C 831.	Bairagarh Reserve, Berar . . . . .	49
C 3455.	Betlah Reserve, Palamow . . . . .	...

316. *C. Myxa*, Linn.,

Vern.—*Lasora*, *bhokar*, *gondi*, HIND.; *Laswara*, PB.; *Lesuri*, *giluri*,  
SIND; *Borla*, *baurala*, KUMAUN; *Bohari*, *buhai*, BENG.; *Embrām*,  
KOL; *Bu*, SONTHAL; *Boeri*, NEPAL; *Nimat*, LEPCHA; *Dobakari*,  
MECHI; *Gondi*, URIYA; *Vidi*, *verasu*, TAM.; *Pedda boku*, *virgi*, *nak-  
kera*, *irki*, *iriki*, TEL.; *Semar*, *goden*, *gondan*, MAR.; *Chotte*, KAN.;  
*Sette*, GOND; *Silu*, KURKU; *Lasséri*, BAIGAS; *Lolú*, CINGH.; *Chaine*,  
MAGH; *Thanat*, *toung thanat*, BURM.

A moderate sized deciduous tree, met with in the Salt Range, sub-Himalayan tract, from the Chenab to Assam, ascending to 5,000 feet, the Khásia Hills, Bengal, Burma, Central and South India.

Wood grey, moderately hard. In spite of its softness, it is fairly strong, and seasons well, but is readily attacked by insects. It is used for boat-building, well-curbs, gun-stocks, and agricultural implements; in Bengal for canoes. It might be tried for tea-boxes. It makes an excellent fuel.

		lbs.
O 250.	Garhwal (1868) . . . . .	42
O 1376.	Gonda, Oudh . . . . .	38
C 1149.	Ahiri Reserve, Central Provinces . . . . .	37
E 642.	Rakti Forest, Darjeeling Terai . . . . .	28
E 2394.	Bamianpokri, Darjeeling Terai . . . . .	28
E 714.	Chittagong . . . . .	23
B 2543.	Birma (1862) . . . . .	36
No. 42.	Salem Collection (marked <i>Spondias mangi- fera</i> ) . . . . .	32

317. *C. Rothii*, Röm and Schult

Syn.—*C. ANGUSTIFOLIA*, Roxb. (*Fl. Ind. i. 595.*)

Vern.—*Gondi*, *gondni*, *gundi*, HIND.; *Liár*, *liái*, SIND.; *Narvilli*, TAM.

A small tree of the dry zones of North-West and South India.

Wood grey, compact, hard. Used for fuel, in Sind for building, and in Cutch for agricultural implements.

		lbs.
P 449.	Ajmere . . . . .	46

**Cordia vestita, Hook. f. and Th.**

Syn.—GYNAION VESTITUM, DC.

Vern.—*Kúmbi, karúk, PB.; Kúm páimán, pin, indak, chinta, ajánta, bairula, berula, HIND.*

A small deciduous tree of the sub-Himalayan tract, from the Jhelum to the Sarda River, and of Oudh.

The wood has the same structure and appearance as that of *C. Macleodii*, except that the concentric lines are occasionally interrupted; strong; used for wheel and well work.

		lbs.
O 231.	Garhwal (1868) . . . . .	52
O 2998.	" (1874) . . . . .	53
O 3232.	Dehra Dun . . . . .	-

**CORIARIA.**

**Coriaria nepalensis, Wall, CORIARÆ.**

Vern.—*Masúri, makola, HIND.; Raselwa, archarru, pajerra, SIMLA; Bhajinsi, NEPAL.*

A deciduous shrub or small tree of the outer Himalaya from the Indus to Bhutan, ascending to 8,000 feet in the North-West and to 11,000 feet in Sikkim.

Wood grey, hard, beautifully mottled; no heartwood. It takes a good polish, and is very handsomely marked; it might be used for boxes and small articles. At present it is only used for firewood, and is often used as such about Simla.

		lbs.
H 68.	Mashobra, Simla, 7,000 feet . . . . .	48
H 2853.	Mahasu, " 7,500 " . . . . .	53
H 2885.	Nagkanda, " 8,000 " . . . . .	41

**CORNUS.**

**Cornus capitata, Wall, CORNACEÆ.**

Syn.—BENTHAMIA FRAGIFERA, Lindley.

Vern.—*Thammal, tharbal, tharwar, thesi, bamaur, bamora, HIND.; Tumbúk, LEPCHA.*

A small deciduous tree of the Himalaya from the Beas to Bhutan, between 3,500 and 8,000 feet, and of Khásia Hills.

Wood whitish, with reddish-brown heartwood, warps in seasoning, very hard, close-grained. It is used only for firewood.

		lbs.
H 78.	Mashobra, Simla, 7,000 feet . . . . .	...
H 94.	Simla, 6,000 feet . . . . .	45
E 3640	from Phallaloong Forest, Darjeeling, is either this or a new species very near it. The wood has a similar structure, but is whiter and warps less.	

**C. macrophylla, Wall.**

Vern.—*Kasir, kachir, náleo, allian, kaddú, harru, nang, kandara, kaksh, kachúr, kochan, kágsha, rúchia, HIND.; Patmoro, NEPAL.*

A small tree of the Himalaya from the Indus to Bhutan, between 3,000 and 8,000 feet.

CORNUS.

318

319

320

321

**CORYPHA.**

Wood pinkish-white, hard, close-grained; warps badly, and has an unpleasant scent; gives good gunpowder charcoal.

H 84.	The Glen, Simla, 6,000 feet	lbs.
H 924.	Hazara, 6,000 feet	45
		43

**322 Cornus oblonga, Wall.**

Vern.—*Kagshi*, SUTLEJ; *Dab*, KUNAWAR; *Kasmol*, *bakár*, *ban-bakár*, *halá*, HIND.

A small tree of the outer Himalaya from the Indus to Bhutan, between 3,000 and 6,000 feet, of the Martaban Hills, Burma, between 4,000 and 7,000 feet. (*Kurs*.)

Wood pinkish-white, hard, even-grained; warps and has an unpleasant scent.

H 150.	Sainj, Giri Valley, 4,000 feet	lbs.
H 3094.	Tarwa Forest, Julung, Simla, 4,000 feet.	46

**CORYLUS.****323 Corylus Columna, Linn., CUMILIFERÆ.**

Syn.—*C. LACERA*, Wall.

Vern.—*Urni*, JHEM; *Winri*, *wiri*, *warawi*, *wúriya*, *thangi*, *thankoli*, KASHMIR and CHAMBA; *Jangi*, CHENAB; *Shurli*, *sharoli*, *ban púlu*, *geh*, *ban dilla*, SUTLEJ; *Kapasi*, *bhotia badám*, KUMAUN.

A moderate-sized tree of the North-West Himalaya, between 5,500 and 10,000 feet.

Wood pinkish-white, moderately hard. It is only used locally, but it is well grained and does not warp, and deserves to be better known, especially as many specimens shew a fine shining grain resembling Bird's-eye Maple.

H 57.	Nagkanda, Simla, 80,000 feet	lbs.
H 908.	Upper Chenab	37
H 3179.	Dungagalli, Hazara.	33

**324 C. ferox, Wall.**

Vern.—*Curri*, NEPAL; *Langura*, BHUTIA.

A small tree of Nepal and Sikkim, 8,000 to 10,000 feet.

Wood pinkish-white, moderately hard, even-grained.

E 376.	Tonglo, Darjeeling, 9,000 feet	lbs.
		38

**CORYPHA.****325 Corypha umbraculifera, Linn., PALMÆ.**

THE TALIPAT PALM.

Vern.—*Conda-pani*, TAM; *Biné*, KAN.; *Tala*, CINGH.; *Pebeng*, BURM.

A tall tree of Ceylon and the Malabar Coast; cultivated in Bengal and Burma.

Wood soft, with a hard rind composed of black vascular bundles. The vascular bundles in the centre of the stem are soft.

The tree often grows to a great size before flowering; one whose measurements were given in the *Indian Agriculturist* for November 1873 as flowering at Peradeniya, Ceylon, measured: height of stem 84 feet, of flower panicle 21 feet, total 105 feet; girth at 3 feet from the

ground round the persistent bases of the leaves 13 feet 9 inches, at 21 feet from the ground 8 feet 3 inches; age about 40 years. The leaves are very large, often 10 feet in diameter; they are made into fans, mats, and umbrellas, and are used for writing on; as also are those of *C. Taliera*.

W 867. South Kanara.

Kurz joins *C. Taliera* with this and *C. elata* with *C. Gebanga*.

## CRATÆGUS.

### COTONEASTER.

#### *Cotoneaster acuminata*, Lindl., ROSACEÆ.

Vern.—*Rik, ráuns, riús, ruinish*, HIND.

A deciduous shrub of Himalaya, from the Beas to Sikkim, between 4,500 and 10,000 feet.

Wood hard, structure like that of *C. bacillaris*. It is used to make walking-sticks like that of *C. bacillaris*.

H 120.	Jalaori Pass, Kulu, 9,000 feet	lbs.
H 2889.	Nagkanda, Simla, 8,000 feet	64
H 3013.		

326

#### *C. bacillaris*, Wall.

Vern.—*Ri, rin, lin, lán, rau, reúsh, rish*, PB. HILLS; *Ruinsh*, JAUNSAIR BAWUR.

A small deciduous tree of the Salt Range above 1,500 feet, of the North-West Himalaya, from the Indus to the Sarda, between 5,000 and 10,000 feet, of Sikkim and Bhutan.

Wood white, turning light-red towards the centre, smooth, very hard, close and even-grained, but splits and warps much. It is used for making walking-sticks: the "Alpenstocks" sold at Simla are usually made of it.

H 55.	Nagkanda, Simla, 8,000 feet	lbs.
H 2890.		61
H 26.	Madhav, Simla, 6,000 feet	
H 124.	Kulu, about 7,000 feet	58
H 925.	Hazara	52
H 3177.	Dungagalli, Hazara, 7,000 feet.	56

327

#### *C. microphylla*, Wall.

Vern.—*Kháris, láni*, KASHMIR; *Garri*, KUMAUN.

A small procumbent shrub of the Himalaya, from Kashmir to Bhutan, from 4,000 to 8,000 feet in the North-West and above 10,000 feet in Sikkim. Often planted for ornament in England.

Wood hard, similar to that of *C. bacillaris*, but with slightly larger pores.

H 2823. Simla, 7,000 feet.

328

### CRATÆGUS.

#### *Cratægus crenulata*, Roxb., ROSACEÆ.

Syn.—*C. PYRACANTHA*, Persoon.

Vern.—*Gingar, gianru*, HIND.

A large spinescent shrub of the Himalaya, from the Sylej to Bhutan, from 5,000 to 7,000 feet, descending in Kumaun to 2,500 feet.

329

## CROTON.

Wood white, hard, very close and even-grained.

H 2967. Nynsee Tal . . . . . lbs.  
48

## CRATÆVA.

330 *Cratæva religiosa*, Forst., CAPPARIDÆÆ.

Syn.—CAPPARIS TRIFOLIATA, Roxb.; C. ROXBURGHII, Ham.; C. NURVALA, Ham.

Vern.—Brarna, bilási, bila, biliana, HIND.; Barún, tikto-shak., BENG.; Tailadu, bunboronda, MECHI; Purbong, LEPCHA, Váyavarná, bhátavarná, hádavarná, BOM.; Maralingam, marviliné, TAM.; Nirvúld, KAN., MAL.; Ramla, karwan, MAR.; Uskia, usiki ulimidi, urumatti, tella vookemara, TEL.; Kadet, katat, BURM.

A moderate sized, distorted tree, met with from the Ravi eastward to Bengal, Assam, Central and South India, and Burma.

Wood yellowish-white, when old turning light-brown, moderately hard, even-grained. Used for drums, models, writing-boards, combs and in turnery.

		lbs.
P 3217.	Nagpahar, Ajmere . . . . .	...
O 270.	Garhwal (1868) . . . . .	33
O 3112.	Dehra Dun . . . . .	47
C 3115.	Chanda, Central Provinces . . . . .	45
B 565.	Prome, Burma . . . . .	43
No. 23.	Salem Collection . . . . .	44

## CRATOXYLON.

331 *Cratoxylon neriifolium*, Kurz., HYPERICINÆÆ,

Vern.—Baibya, BURM.

A moderate sized tree, found in Chittagong and Burma.

Wood dark-grey, hard, close-grained. According to Kurz, it is used for building purposes, for ploughs, handles of chisels, hammers and other implements.

		lbs.
B 312.	Burma (1867) . . . . .	47

## CROTON.

332 *Croton argyratus*, Bl., EUPHORBIACÆÆ.

Vern.—Chonoo, BURM.; Talibdú, AND.

A moderate sized or small evergreen tree of Martaban, Tenasserim, and the Andaman Islands.

Wood hard, yellow, close and even-grained, seasons well. It is worthy of notice.

		lbs.
B 501.	Andaman Islands . . . . .	48
B 515.	" " . . . . .	46

333 *C. caudatus*, Müll. Arg.

Syn.—C. DRUPACEUM, Roxb. (Fl. Ind., iii. 683.)

Vern.—Nan bhantúr, BENG.; Takchabrik, LEPCHA; Wusta, URIYA.

A large straggling shrub of Bengal, Assam, Burma, and South India found chiefly on the banks of streams.

CUPRES-  
SUS.

Wood white or yellowish-white, hard, close-grained. Home says it is used for fuel.

E 3298. Sivoke, Darjeeling Terai.

**Croton oblongifolius, Roxb.**

Vern.—*Arjunna*, OUDH; *Ach*, NEPAL; *Kurti*, *kontya*, *kuli*, KOL; *Putri*, LOHARDUGGA; *Gote*, SONTAL; *Kote*, *putol*, MAL.; *Burma*, *parskupi*, ASS.; *Bhutan kusam*, TEL.; *Thityin*, BURM.

A small tree found in the sub-Himalayan tract from Oudh eastward, in South India, Burma and Ceylon.

Wood whitish to yellow close-grained, moderately hard; liable to crack in seasoning.

B 3201. Burma (1862); *Thityinkat* is supposed to be this.

C 3452. Chandwar Tori, Chutia Nagpur.

334

## CRYPTOMERIA.

**Cryptomeria japonica, Don., CONIFERÆ.**

Vern.—

A large tree of China and Japan, cultivated throughout the district of Darjeeling, and occasionally in other hill districts.

Wood white, soft, with a brown, often almost black, heartwood; very uniform, with narrow bands of darker and firmer tissue at the edge of each annual ring.

E 697. Rungbee, Darjeeling, 5,500 feet . . . lbs. 21

E 3615. Rangirum, Darjeeling, 7,000 feet.

E 3679. " " " "

335

## CUPRESSUS.

**Cupressus funebris, Endl., CONIFERÆ.**

THE WEEPING CYPRESS.

Vern.—*Chandang*, *tchenden*, BHUTIA.

A handsome tree with pendulous branches, and a fibrous brown bark, often planted in Nepal, Sikkim and Bhutan near temples and monasteries, and in China.

E 972. Darjeeling Hills, about 5,500 feet . . . lbs. 34

**C. sempervirens, Linn.**

THE CYPRESS.

Vern.—*Sara*, *sarás*, N.-W. INDIA.

A tall tree, cultivated in gardens in Afghanistan and North-West India, sometimes reaching 6 to 9 feet in girth, with 70 to 100 feet in height.

Wood light-brown, close-grained, moderately hard to hard. It is very fragrant, with a strong, peculiar and pleasant scent.

It is exceedingly durable, and in the Levant and Greece is prized for trunks and boxes, the contents of which are proof against most insects. (*Brandis*.)

O 3267. Saharanpur Gardens . . . lbs. 37

85

336

337

CYNOME-  
TRA.

338

*Cupressus torulosa*, Don.

HIMALAYAN CYPRESS.

Vern.—*Devi-díar*, RÁVI; *Deodar*, KULU, BHÁJJI; *Gulla, gulrai, kallain*, SIMLA; *Seauri*, JAUNSAIR; *Raisalla, sarai*, KUMAUN; *Sarrá, sárah-yfu*, TIBET.

A large tree growing on the outer ranges of North-West Himalaya, from Chamba to Nepal, scattered, and in numerous isolated localities of greater or less extent, chiefly on limestone, between 5,500 and 9,000 feet.

Heartwood light-brown, with darker streaks, very fragrant, moderately hard. Has been much used at Naini Tál for building, and is sometimes used for beams on the Ravi and Sutlej. In Kulu it is made into images, and is used for the poles which carry the sacred ark. It is often burnt as incense in temples.

					lbs.
H	30.	Tika, Simla, 8,000 feet	.	.	34
H	61.	Kandru, Simla, 8,000 feet	.	.	42
H	771.	Belj, near Bassú, Chamba, 7,000 feet	.	.	36
H	613.	Kulu, 7,000 feet	.	.	44

## CYCAS.

339

*Cycas pectinata*, Griff, CYCADACEÆ.Vern.—*Thakal*, NEPAL.

An evergreen, simple-stemmed, palm-like tree, found in Sikkim, Eastern Bengal, and Burma, often in sál or eng or pine forests.

Wood yellowish-white, in narrow wedge-shaped plates arranged in nearly concentric rings and separated by white tissue, which, like the central pith, is full of starchy granules.

				lbs.
E	2439.	Chenga Forest, Darjeeling, 1,000 feet	.	54
E	877.	Balasun Forest, Darjeeling Terai	.	...

## CYNOMETRA.

340

*Cynometra polyandra*, Roxb., LEGUMINOSÆ.Vern.—*Ping*, CACHAR, SYLHET.

A large evergreen tree of the Khásia Hills, Sylhet and Cachar.

Wood light-red, hard, close-grained. Mann says it is very useful for scantlings, and makes good charcoal.

Weight, 53<sup>6</sup> to 60 lbs.

				lbs.
E	1276.	Cachar	.	60

341

*C. ramiflora*, Linn.Syn.—*C. BIJUGA*, *Spanoghe*.

Vern.—*Shingr*, BENG. (as in Gamble); *Irapú*, TAM.; *Mymeng, kabeng*, BURM.; *Galmendora*, CINGH.

A large, evergreen tree of the Sunderbans, South India, and Burma, in tidal forests; frequent from Chittagong down to Tenasserim and the Andaman Islands. (*Kurz*.)

Wood red, hard, close-grained.

Chips of the wood give, in water, a purple dye. (*Gamble*.) Skinner

says that the wood is used for house-building and carts. It is used in the Sunderbans for posts for native huts and for fuel.

E 397. Sundarbans . . . . . lbs.  
58

## DÆMIA.

**Dæmia extensa**, R. Br., ASCLEPIADACEÆ.

Syn.—ASCLEPIAS ECHINATA, Roxb.

Vern.—*Chagulbanti*, BENG.; *Utarana*, SIND.

A common climber with a foetid stent; met with throughout India, ascending to 3,000 feet.

## DALBERGIA.

**Dalbergia cultrata**, Grah., LEGUMINOSÆ.

Vern.—*Yendike*, BURM.

A moderate sized tree of Burma.

Wood purplish-black, with darker streaks, with harder wood than, but structure similar to that of, *D. latifolia*.

It is used for wheels, agricultural implements, handles of dahs and spears, and especially for carvings. The sapwood is very perishable, but the heartwood extremely durable.

B 2521. Burma (1862) . . . . . lbs.  
70  
B 2728. Nawing Forests, Prome (1856) . . . . . 69  
B 2697. Tavoy (*Wallich*, 1828) . . . . . ...

**D. foliacea**, Wall.

Vern.—*Tatebiri*, NEPAL.

A large straggling shrub, met with in the Eastern Himalaya and Burma.

Wood white, porous, with a small dark heartwood, in structure resembling that of *D. stipulacea*, except that the medullary rays are broader.

E 3274. Múraghát Reserve, Western Dúars.

**D. lanceolaria**, Linn.

Syn.—*D. FRONDOSA*, Roxb. (*Fl. Ind.*, iii, 226; *Beddome*, lxxxviii.)

Vern.—*Takoli*, *bithaa*, HIND.; *Chapot siris*, SONTHAL; *Piri*, KOL.; *Bander siris*, NEPAL; *Barbat*, *parbati*, BANSWARRA; *Generi*, PANCH MEHALS; *Harráni*, DHARWAR; *Nal valanga*, TAM; *Pedda sopara*, *yerra patsaru*, *pasarganni*, TEL.; *Dandous*, *kaurchi*, MAR.

A deciduous tree of the sub-Himalayan tract from the Jumna eastwards, ascending to 2,500 feet, and of Central and South India.

Wood white, moderately hard; not durable; no heartwood. *Beddome* says the timber is useful for building purposes.

C 1144. Ahiri Reserve, Central Provinces . . . . . lbs.  
E 618. Champasari Forest, Darjeeling Terai . . . . . 33  
E 2346. Bamunpokri, Darjeeling Terai . . . . . 44

DALBERGIA.

342

343

344

345



## 346

THE BLACKWOOD or ROSEWOOD OF SOUTHERN INDIA.

A deciduous tree, attaining a large size in South India, also found in Assam, Eastern Bengal, and Central India.

Sapwood yellow, small; heartwood extremely hard, dark-purple, with black longitudinal streaks; no distinct annual rings, but alternating concentric belts of dark and light colour, which, however, run irregularly into each other. It coppices well, is easily raised from seed, and reproduces well naturally.

It is a valuable furniture wood, and is exported to Europe from the forests of Kanara and Malabar. Wood sent to London for sale in 1878 fetched £13-10s. per ton. It is also used for cart wheels, agricultural implements and for gun-carriages. It is good for carving and fancy work, and is used for the handles of knives, kukris and other arms. It has been used for sleepers. Nine sleepers which had been down seven to eight years on the Mysore State Railway were found to have, when taken up, five good, three still serviceable, and one bad. It has been grown in plantations in Malabar and Kanara.

P	{ 464. }	Ajmere	.	.	.	.	.	.	...
C	467.								
C	187.	Mandla, Central Provinces (1869)	.	.	.	.	.	.	46
C	2984.	Jabalpur (1863)	.	.	.	.	.	.	53
C	1146.	Ahri Reserve, Central Provinces	.	.	.	.	.	.	58
C	2732.	Moharli Reserve, Central Provinces	.	.	.	.	.	.	52
C	955.	Dangs Forests, Guzerat, Bombay	.	.	.	.	.	.	53
C	1236.	Gumsūr, Madras	.	.	.	.	.	.	64
C	1303.	" "	.	.	.	.	.	.	64
C	3456.	Saidope Preserve, Palamow	.	.	.	.	.	.	...
C	3522.	Khurdha Forests, Orissa	.	.	.	.	.	.	61
D	1476.	Anamalai Hills, Madras	.	.	.	.	.	.	...
E	492.	Khookloong Forest, Darjeeling Terai	.	.	.	.	.	.	...
E	672.	Bamunpokri, Darjeeling Terai	.	.	.	.	.	.	50
F	2348.	" " "	.	.	.	.	.	.	60
W	1227.	North Kanara	.	.	.	.	.	.	54
W	729.	South "	.	.	.	.	.	.	55
W	855.	" "	.	.	.	.	.	.	49
D	2044.	Mysore	.	.	.	.	.	.	54
D	1072.	North Arcot	.	.	.	.	.	.	57
No.	24.	Salem Collection	.	.	.	.	.	.	62
E	3675.	Darjeeling Terai	.	.	.	.	.	.	54
C	3682.	Palamow, Chutia Nagpore	.	.	.	.	.	.	52

**347** *D. nigrescens*, *Kurz* (i. 346.)

A moderate sized deciduous tree of the dry mixed forests of Upper Burma.

**Wood light-grey, soft.**

B 291.	Burma (1867)	.	.	.	.	.	lbs.
B 2522.	" (1862)	.	.	.	.	.	39

There is some doubt about the identification of these species owing to the absence of concentric bands.

## DALBERGIA.

348.

**Dalbergia paniculata, Roxb. (Fl. Ind., iii. 227.)**

**Vern.**—*Katsirsa*, OUDH; *Dhobein, dhohein, pási, sátpuria*, HIND.; *Surteli, passi*, BAIGAS; *Patchalai, valange*, TAM.; *Potrum, porilla, pat-suru, toper*, TEL.; *Sondarra, sheodun, topia*, MAR.; *Hasur guniri, pachári*, KAN.; *Piangani*, MAL.; *Tapoukben*, BURM.; *Padri*, GOND, BHIL.; *Phassi*, KURKU.

A large deciduous tree of the North-West Himalaya from the Jumna to Oudh, Central and South India (quoted by Kurz from Burma, but identification doubtful.)

• Wood yellowish or greyish-white, soft, perishable; no heartwood. Structure most remarkable, entirely different from that of other species of the genus: broad concentric masses of wood alternate with narrow, dark-coloured belts of a fibrous substance, resembling the inner bark. Planks cut out of old trees fall to pieces. Wood not durable and very subject to the attacks of insects. **Beddome** says it is used for building and other purposes.

C 1115.	Ahiri Reserve, Central Provinces	32
C 2928.	Seoni, Central Provinces	46

**D. Sissoo, Roxb. (Fl. Ind., iii. 223.)**

## THE SISSOO.

**Vern.**—*Shisham, sissu, sissai*, HIND.; *Shewa*, PUSHTU; *Táli, safedar, shin, nelkar*, PUNJ.; *Sissái*, OUDH; *Yette*, TAM.

A large deciduous tree of the sub-Himalayan tract from the Indus to Assam, ascending to 2,000 feet. **Van Someren**, in his *List of Forest Trees of Mysore and Coorg*, gives it as occurring under the Kanarese name *biridi*, but it is probably not indigenous in those provinces.

Sapwood small, white; heartwood brown with darker longitudinal veins, close and even-grained, seasons well, very hard. Annual rings not distinctly marked, alternating dark and light-coloured bands, which run into each other.

The wood is very durable, seasons well, and does not warp or slip. It is highly esteemed for all purposes where strength and elasticity are required. **Clifford** says that "in strength it is only inferior to sál, while in many other useful qualities it surpasses it, and has the advantage of being lighter. For felloes and naves of wheels and carved work of every description, for framings of carriages and similar work, it is unsurpassed by any other wood, owing to its fine seasoning and standing qualities." It is extensively used for boat-building, carts, and carriages, agricultural implements, in construction, and especially for furniture.

Formerly, it was more extensively used for gun-carriages than it can be at present, owing to the comparatively small supply. With regard to its durability and strength as a wood for wheels, **Clifford** says: "The wheels of our ordnance carriages have never failed, however arduous or lengthened the service has been on which they have been employed, of which no more striking example can be furnished than the campaign in Afghanistan, about the most trying country in the world for wheels. Some of our batteries served throughout the campaign, went to Bameean and even to the Hindoo Koosh and came back again to India without a breakdown, while Royal Artillery wheels, built of the very best materials Woolwich could produce, specially for Indian service, almost fell to pieces after few months' exposure and service on the plains of India."

It has been tried and found to be good for sleepers, and **Mr. McMaster**, in the *Proceedings of the Institution of Civil Engineers*, Vol. XXIII, 1863, says it will be really good for that purpose.

## DAPHNE.

It is much planted as an avenue tree all over India and in forest plantations in the Punjab and Bengal.

P 145.	Giri Valley, Punjab, 3,000 feet	lbs.
P 884.	Multan, "	44
P 1205.	Changa-Manga plantation (nine specimens)	52
P 1347.	Peraghaib and Salla plantations, Jhelum (eight specimens)	...
O 205.	Gorhwal (1868)	...
O 357.	Dehra Dun	52
O 1460.	Bahraich, Oudh	...
O 1486.	Kheri, "	49
E 675.	Rakti Forest, Darjeeling Terai	52
E 2347.	Sukna, "	47
E 634.	Eastern Duárs, Assam	46
E 3588.	Darjeeling Terai	42
E 3709.	R. B. Gardens, Calcutta (1881)	...
		45

350 *Dalbergia stipulacea*, Roxb. (*Fl. Ind.*, iii. 233.)

Vern.—*Tatebiri*, NEPAL; *Garodosal*, MECHI; *Tén-nyok*, LEPCHA.

A large climbing shrub of the Eastern Himalaya, ascending to 4,000 feet, of Assam, Khásia Hills, Chittagong and Burma.

Wood soft, greenish-grey; porous.

E 574.	Khookloong Forests, Darjeeling Terai	lbs.
E 2349.	Sivok " " "	...
		48

351 *D. volubilis*, Roxb.

Vern.—*Bhatia*, KUMAUN; *Birmunga*, SONTHAL; *Rongdi*, MAL.

A large climber, met with in the Central and East Himalaya.

Wood light-brown, hard, very tough.

Samples of undetermined woods supposed to belong to *Dalbergia*.

B 2523. Burma (*Brandis*, 1862).

B 2230. Andaman Islands.

## DAPHNE.

352 *Daphne longifolia*, Meisn., THYMELEACEÆ.

Vern.—*Shedbarwa*, NEPAL.

A shrub of Eastern Himalaya, the Khásia Hills, and Eastern Bengal.

The bark is used in the manufacture of Nepal paper.

353 *D. mucronata*, Royle.

Vern.—*Laghúne*, AFG.; *Pech*, SIND; *Kútilál*, *kanthan*, *gandalum*, *shalan-gri*, *sosho*, *shing*, *mashúr*, *swána*, *jikri*, *dona*, *channi niggi*, *kágsari*, *sind*, *kansian*, *sonái*, PB.

A small evergreen shrub, of the Suliman Range, from 3,000 to 7,000 feet, and the Himalaya from 2,300 to 9,000 feet.

Wood white, soft. It is used in Chamba to make gunpowder charcoal.

H 2826. Cheog Forest, Simla, 7,000 feet.

H 2828. Simla, 7,000 feet.

354 *D. papyracea*, Wall.

Vern.—*Niggi*, PB.; *Set barúwa*, *sathúra*, HIND; *Balwa*, KUMAUN; *Gande*, *kaghuti*, NEPAL; *Dayshing*, BHUTIA.

A large shrub found on the Himalaya from near the Indus to Bhutan, between 3,000 and 9,000 feet, and on the Khásia Hills.

Wood white, moderately hard. Flowers very sweet-scented. Bark used to make Nepal and Bhutia paper, the commoner thin kind; also to make ropes for various purposes such as carrying loads.

E 2408.	Darjeeling, 7,000 feet	lbs.
E 3661.	Darjeeling	34
		...

DEBREG  
ASIA.

### DAPHNIDIUM.

**Daphnidium elongatum**, Nees, LAURACEÆ.

Vern.—*Pateli*, *poalay*, *phusri*, NEPAL; *Phamlet*, LEPCHA.

A large evergreen tree, found in the Sikkim and Bhutan Himalaya, from 6,000 to 8,000 feet, and in the Khásia Hills.

Wood yellow, turning olive-grey on exposure; moderately hard, even-grained, very pretty and worthy of attention. It is used for building, chiefly planking.

E 362.	Rangbúl, Darjeeling, 7,000 feet	lbs.
E 2418.	" "	34
		41

**D. pulcherimum**, Nees.

Vern.—*Dabia*, HIND.; *Sisi*, NEPAL; *Nupsor*, LEPCHA; *Dingpingwai*, KHASIA.

A large evergreen tree of Kumaun, Nepal and Sikkim Himalaya, between 4,000 and 9,000 feet, and of the Khásia Hills and Burma.

Wood reddish-white, moderately hard, even-grained. Structure similar to that of *D. elongatum*. Used for building cattle yokes and occasionally tea-boxes.

E 368.	Rangbúl, Darjeeling, 7,000 feet	lbs.
E 2417.	" " " "	33
		40

### 'DEBREGEASIA.

**Debregeasia bicolor**, Wedd., URTICACEÆ.

Syn.—*URTICA BICOLOR*, Roxb.

Vern.—*Kharwala*, *shakai*, AFG.; *Chainchar*, *chainjli*, *amrer*, *sandári*, JHELUM; *Sansaru*, *suss*, CHENAB; *Siaru*, *talsiari*, RAVI; *Pincho*, *prin*, SUTLEJ; *Tashiari*, KUMAUN.

A large shrub of the Salt Range and the North-West Himalaya, ascending to altitude 5,000 feet.

Wood soft and grey.

H88.	Bhajji, Simla, 4,000 feet	lbs.
		27

**D. leucophylla**, Wedd.

Syn.—*MOROCARPUS WALLICHIANUS*, Miq.

Vern.—*Párumi*, NEPAL; *Senén*, LEPCHA.

A small tree, erect or epiphytic, found in the North-East Himalaya up to 7,000 feet, in the Khásia Hills and down to the upper forests of the Pegu Yoma.

Wood with the annual rings distinctly marked by a white line. A very pretty plant with round leaves of the purest white beneath. Fibre used sometimes for cordage.

E 3329. Darjeeling, 6,000 feet.

355

356

357

358

DENDRO-  
CALAMUS.359 *Debregeasia longifolia*, Wedd.

S. n. — MOROTARPUS LONGIFOLIUS, Bl

Vern. — *Ta-hia-ti*, NEPAL; *Kamhyem*, LEPCHA; *Capsee*, KAN.; *Pwot chau-beng*, BURM.

A small tree, found in the North-East Himalaya up to 7,000 feet, in the Khasia Hills, South India, and Burmah; common on old cultivations. Heartwood reddish-brown, hard, sapwood white.

E. 3328. Darjeeling, 6,500 feet.

## DENDROCALAMUS.

360 *Dendrocalamus criticus*, Kurz, GRAMINEÆ.

Found in Pegu, altitude 3,000 feet; stems 15 to 30 feet.

361 *D. giganteus*, Munro.

Syn. — BAMBUSUS GIGANTEA, Wall.

Vern. — *Wakle, waya*, BURM.

Met with in Tenasserim; stems tall, often 26 inches in girth.

B. 1329. Moulmein.

362 *D. Gongispathus*, Kurz.Vern. — *Wa-ya*, BURM.

Stems 40 to 60 feet in height.

B. 1324. Ioungoo, Burma.

363 *D. Hamiltonii*, Nees.Vern. — *Iama*, NEPAL; *Pao*, LEPCHA; *Pa-shing*, BHUTIA, *Kokua*, BENG.; *Wah*, MECHI, *Wahnok*, GARO

The common bamboo of the Eastern Himalaya.

The culms are large, 3 to 6 inches diameter, rather hollow and not always straight, but they are used for every variety of purpose. The bamboo grows gregariously, on hill-sides, up to 3,000 feet, and the stems are 40 to 60 feet high. They often grow low and tangled, instead of straight, and the bamboo may often be recognised by this character and by the very thick shoots which grow out at the nodes.

E 1341 }  
E 1466. } Bamunpokri

364 *D. Hookeri*, Munro.Vern. — *Ussey, assey, denga, ukotang*, Ass.

Stems 50 feet in height.

365 *D. membranaceus*, Munro.Vern. — *Wa-yai*, BURM.

Stems 40 to 50 feet

B. 1315. Toungoo, Burma.

366 *D. Parishii*, Munro.

P. 114. Sutlej, Punjab.

367 *D. serviceus*, Munro.

Found on Parisnath, Chutia Nagpur.

DESMODIUM.

368

**Dendrocalamus strictus, Nees.**

THE MALE BAMBOO.

**Syn.**—*BAMBUSA STRICTA*, Roxb.**Vern.**—*Bans, bans kaban, bans khúrd, kopar*, HIND; *Karail*, BENG.; *Mathan, saring, burumat*, KOL; *Bukhar*, PALAMOW; (*for the Clump*;) *Mát*, SONTHAL; *Bas, udha*, BOM.; *Halba, veddar, vadur*, GOND; *Bhiru*, BAIGAS; *Kark*, PANDRATOLA; *Kanka*, TEL.; *Myinwa*, BURM.

This bamboo has often deciduous leaves; the stems are strong, elastic, and nearly solid, 20 to 100 feet high. Used for spear handles, and all purposes of building and basket work. This species occasionally flowers gregariously, but generally single stems only or single clumps are found in flower.

**DERRIS.****Derris robusta, Bth., LEGUMINOSÆ.**

369

**Syn.**—*DALBERGIA KROWEI*, Roxb. (*Fl. Ind.*, iii, 229.)**Vern.**—*Mowhitta*, ASS.; *Bolkakarú*, GARO; *Krowee*, SYLHET; *Gumbong*, MAGH.

A deciduous tree of the outer Himalaya from the Ganges eastwards, Assam, Eastern Bengal, down to Pegu.

Wood light-brown, hard. Roxburgh says it grows quickly to a large size.

E 786.	Kamrúp, Assam	lbs.
		53

**DESMODIUM.****Desmodium Cephalotes, Wall., LEGUMINOSÆ.**

370

**Syn.**—*HEDYSARUM CEPHALOTES* and *UMBEILATUM*, Roxb. (*Fl. Ind.*, iii, 360.)**Vern.**—*Bodle kúrú*, NEPAL; *Manipht'yal*, LEPCHA; *Chetenta*, TEL.

A shrub of the Eastern Himalaya, South India, and Burma.

Wood yellowish, in structure resembling that of *D. tiliaefolium*.

E 3281. Dainah Reserve, Western Dúars.

**D. floribundum, G. Don.**

371

**Vern.**—

A shrub met with throughout the Himalaya, up to 5,000 feet, and in the Khásia Hills. In Sikkim it is common in old cultivated lands at 3,000 to 5,000 feet.

E 3724. Kalimpong, Darjeeling, 4,000 feet.

**. tiliaefolium, G. Don.**

372

**Vern.**—*Sambar, shamru, chamra, chamyár, chamkat, chamkúl, martan, motha, gurshagal, pri, marára, máss, múrt, laber*, HIND.

A large deciduous shrub of the Himalaya, from the Indus to Nepal, between 3,000 and 9,000 feet.

Wood yellowish-brown, with a darker centre.

		lbs.
H 3184.	Dungagalli, Hazara, 8,000 feet	...
H 51.	Nagkanda, Simla, 7,000 feet	...
H 2934.	Mahasu, Simla, 7,000 feet	53
H 3019.	Kotgarh, Simla, 7,000 feet (var. <i>Argenteum</i> , Wall.)	...

## DICHROA.

## DEUTZIA.

373 *Deutzia corymbosa*, Brown, SAXIFRAGEÆ.Vern.—*Daloutchi, deutsch, bhujru*, SIMLA.

A shrub of the Himalaya, from the Sutlej to Bhutan, from 6,000 to 10,000 feet.

Wood, white, soft, even-grained.

H. 2850.	Mahasu, Simla, 7,000 feet	lbs.
H. 2898.	Nagkanda, Simla, 8,000 feet	46

374 *D. staminea*, Brown.Vern.—*Muneti*, KUMAUN ; *Deutsch*, SIMLA.

A shrub of the Himalaya, from Kashmir to Bhutan, from 5,000 to 8,000 feet.

Wood white, soft ; structure similar to that of *D. corymbosa*.

H. 2836.	} Simla, 6,000 feet	lbs.
H. 2819.		43

## DICHOPSIS.

375 *Dichopsis Gutta*, Bth. and Hook. f., SAPOTACEÆ.Syn.—*ISONANDRA GUTTA*, Hook.

Indigenous in Singapore and the Malay Archipelago.

Yields the *Gutta-percha* of commerce, exported to Europe from Singapore and the Malay Archipelago.376 *D. polyantha*, Benth and Hook. f.Syn.—*BASSIA POLYANTHA*, wall ; *ISONANDRA POLYANTHA*, Kunt (ii. 119.)Vern.—*Tali*, BENG. ; *Sill-kurta*, CACHAR ; *Thainban*, MAGH.

A moderate sized evergreen tree met with in Cachar, Chittagong, and Arracan.

Wood red, hard, much valued in Cachar and Chittagong. Mann says it does not float, but he must refer to green wood. Major Lewin says it is used in Chittagong for making beds, tools, &amp;c., and is sawn into boards for the Calcutta market.

E 1274.	Cachar	lbs.
E 1494.	Sylhet	53
E 1952.	Chittagong	...
E 3285.	Rinkheong Reserve, Chittagong	53
E 3691.	Chittagong	...
		52

## DICHROA.

377 *Dichroa Febrifuga*, Lour., SAXIFRAGEÆ.Syn.—*ADAMIA CYANEA*, Wall, (t., 213.)Vern.—*Basak, bansirk*, NEPAL ; *Gebokanak*, LEPCHA ; *Singnamuk*, BHUTIA.

An evergreen shrub, common in the forests of the Eastern Himalaya, from Nepal to Bhutan and in the Khásia Hills, above 4,000 feet.

Wood white, moderately hard, with small pores and moderately broad, to very fine medullary rays.

E. 2371.	Darjeeling, 7,000 feet	lbs.
		41

## DICHROSTACHYS.

**Dichrostachys cinerea, W. & A., LEGUMINOSÆ.**Syn.—*MIMOSA CINEREA*, Roxb. (*Fl. Ind.*, ii, 561.)Vern.—*Vurtuli*, HIND; *Kunlai, kunrat, kheri*, MHAIRWARRA; *Vadatalla, vadatara*, TAM.; *Velturu, yeltu*, TEL.; *Segum kati*, MAR., GOND; *Andara*, CINGH.

A thorny shrub or small tree of the dry, stony hills in South and Central India, and of Rajputana.

Heartwood red, extremely hard. Wood used for walking-sticks.

		lbs.
No.	25. Salem Collection . . . . .	79
No.	3. Ceylon Collection (marked <i>Vachellia far-nesiana</i> ) . . . . .	71
P	3239. Ajmere . . . . .	2
P	3229. Nagpahar, Ajmere . . . . .	...

## DILLENIA.

**Dillenia aurea, Smith, DILLENIACEÆ.**Syn.—*D. ORNATA*, Wall.Vern.—*Chamaggai*, OUDH; *Dheugt*, NEPAL; *Byodben*, BURM.

A large tree of Nepal, Bengal, Burma, and the Andaman Islands.

Wood grey, beautifully mottled, hard, close-grained. It is not used.

		lbs.
B	2502. Burma (1862) . . . . .	49
B	2253. Andaman Islands (1866) . . . . .	48

**D. indica, Linn.**Syn.—*D. SPECIOSA*, Thunb. (*Roxb., Fl. Ind.*, ii, 650; *Beddome, t.*, 103.)Vern.—*Chalta*, HIND.; *Chalta, hargesa*, BENG.; *Chilta*, MONGHYR; *Panpui*, GARO; *Phamsikol*, LEPCHA; *Ramphal*, NEPAL; *Otengah*, ASS.; *Rai, Oao*, URIYA; *Mothe karamala*, BOM.; *Uva*, TAM.; *Uva, pedda-kalinga*, TEL.; *Bettakanagala, kadkanagula*, KAN; *Syalita*, MAL.; *Mota karmal*, MAR.; *Hondapara*, CINGH.; *Thapru, chauralesi*, MAGH; *Thabyoo*, BURM.; *Carlrow*, TALEING.

A large evergreen tree of Bengal, Central and South India, and Burma; often planted for ornament.

Wood red with white specks, close-grained; moderately hard. It is used to make helves and gunstocks, and in construction; and is said to be durable under water. It makes good firewood and charcoal.

		lbs.
E	596. Khookloong Forest, Darjeeling Terai . . . . .	40
E	2310. Sivoke Forests, Darjeeling Terai . . . . .	41
E	1395. Chittagong . . . . .	48
B	2501. Burma . . . . .	49
B	2245 . . . . .	52
B	2275 . . . . .	44

Specimens supplied by Major Ford from the Andaman Islands (*Lingyan*). May possibly be *D. pilosa*, Roxb. The wood is purplish-grey.



DIOSPY-  
ROS.381 *Dillenia pentagyna*, Roxb. (*Fl. Ind.*, ii. 602)Syn.—*D. AUGUSTA*, Roxb. (*l. c.*)

Vern.—*Aggai*, OUDH; *Kallai*, C. P.; *Karkotta*, BENG.; *Agar*, MONGHYR; *Pashkoul*, RAJBANSHI; *Korkot*, SONTAL and ORAON; *Karkota*, KOL and MAL; *Suha ruk*, BORI, C. P.; *Tatri*, NEPAL; *Shukim*, LEPCHA; *Aksk*, ASS., MECHI; *Akrichi*, uchkaï, GARO; *Rai*, URIYA; *Karamala*, BOH.; *Rai*, *pinnai*, *nai-ték*, TAM.; *Rawadan*, *chinnakalinga*, TEL.; *Kanagalu*, MAR.; *Mirchi*, BAIGAS; *Kallei*, GOND; *Malé geru*, KURG; *Machil*, *kattéga*, *kadkanagola*, KAN.; *Zambrán*, MAGH.; *Zimbyun*, BURM.

A deciduous tree of Oudh, Bengal, Central and South India, and Burma.

Wood rough, moderately hard, reddish-grey; apt to split, warp, and crack; strong, heavy, durable, handsomely marked on a vertical section by the darker-coloured medullary rays which appear as broad plates.

It is used for construction, ship-building, rice-mills, and for charcoal which is of good quality. The tree is often found with sál.

		lbs.
C	3571. Khurdha Forests, Orissa . . . .	41
O	348. Gorakhpur (1868) . . . .	54
E	658. Rakti Forest, Darjeeling Terai . . . .	45
E	2311. Sivoke, Darjeeling Terai . . . .	54
B	{ 302. } Burma (1867) . . . .	47
B	{ 303. }	
B	557. Promé, Burma . . . .	38

382 *D. retusa*, Thunb.Vern.—*Godapara*, CINGH.

A tree met with in Ceylon, up to 2,000 feet.

Wood resembling that of the other species; used for building.

		lbs.
No. 29	Ceylon Collection . . . .	51

## DINOCHLOA.

383 *Dinochloa andamanica*, Kurz, GRAMINEÆ.

Met with in the Andaman Islands; stems scandent up to 100 feet in height.

384 *D. Maclellandi*, Kurz.Syn.—*BAMBUSA MACLELLANDII*, Munro.Vern.—*Wa-nway*, BURM.

A native of Burma; stems scandent, 60 to 100 feet.

B 1320. Chittagong, Burma.

## DIOSPYROS.

385 *Diospyros cordifolia*, Willd., EBENACEÆ.Syn.—*D. MONTANA*, Roxb. (*part*) (*Brandis*, 296.)Vern.—*Banyab*, BENG.; *Vackana*, *kaka ulimera*, TEL.; *Gyáttbeng*, BURM.

A native of Bengal, South India and Burma.

Wood reddish, moderately hard; useful for cabinet-work.

		lbs.
E	715. Chittagong ( <i>Moishkanda</i> , BENG.; <i>Chapraka</i> , MAGH) . . . .	45
B	2541. Burma (1862) . . . .	49

DIOSPY-  
ROS.

386

**Diospyros Ebenum, König.\***

EBONY.

**Vern.**—*Ebans abnús, tendu*, HIND.; *Kendhu*, URIYA; *Acha, tumbi, skengutan, kaka-tati, tai*, TAM.; *Tuki*, TEL.; *Karemara*, KAN.; *Tai, tendu, abnús*, MAR.; *Mallali*, MANJARABAD; *Kalkwara*, CINGH.

A large tree of South India and Ceylon.

Wood grey, with irregularly-shaped masses of jet-black ebony near the centre, frequently with lighter-coloured streaks. It is used for inlaying and ornamental turnery, but the demand for it is not very great.

W 731.	South Kanara	lbs.
W 750.	"	61
No. 13.	Ceylon Collection (marked <i>Diospyros, sp.</i> )	70
W 1207.	South Kanara (saplings).	71

**D. ehretioides, Wall.**

**Vern.**—*Ouk-chingaa*, BURM.

A large tree of Burma.

Wood dark-grey, with darker streaks, moderately hard, even-grained; used for house-posts.

B 1422.	Tharrawaddi, Burma	lbs.
B 2542.	Burma (1862)	54
		52

**D. Embryopteris, Pers.\***

**Syn.**—*D. GLUTINOSA, Roxb. (Fl. Ind., ii, 533); EMBRYOPTERIS GLUTINIFERA, Roxb.*

**Vern.**—*Gáb, makur-kendi*, BENG., HIND.; *Kúsi*, BANDA; *Kendu*, ASS.; *Gusvakendhu*, URIYA; *Tumbika, pani-chika*, TAM.; *Tumil, tumika*, TEL.; *Holle-lupra*, COORG; *Kusharta*, KAN.; *Timberree*, CINGH.

An evergreen shrub or small tree, with dark-green foliage and long shining leaves, common throughout India and Burma, except the arid and dry zones in the Punjab and Sindh.

Wood grey, moderately hard, close-grained.

O 3161.	Dehra Dun	lbs.
C 3474.	Saranda Forest, Chutia Nagpur.	52

**D. Kurzii, Hiern.**

ANDAMANESÉ MARBLE WOOD.

**Vern.**—*Teakah, thitkyá*, BURM.; *Pecha-da*, AND.

An evergreen tree of the Andaman Islands.

Wood handsome, streaked with black and grey; the grey wood hard; the black wood very hard, with alternate streaks of black ebony and grey wood. The mass of ebony occupying the centre of the tree is large and very irregular in outline, and frequently encloses interrupted concentric belts of light-coloured wood.

It is used for cabinet work and for walking sticks, and should be better known as a substitute for the Ceylon Calamander wood, which it resembles in appearance. It is said by Major Ford to be used in the Andamans for handles and sheaths of blades, and for furniture. Home's surveys gave 224 trees or one tree per acre; so it is pretty common.

B 2203.	Andaman Islands (1866)	lbs.
B 2498.	" " (Home, 1874, No. 15)	57
B 521.	" " . . . . .	80
		62

**DIOSPY.  
ROS.****390. Diospyros Lotus, Linn.****Vern.**—*Amlák, malák, PB.*

A middle sized tree with dark-brown or black tassellated bark, found in the Punjab Himalaya, in Hazara and Kashmir, from 2,500 to 6,000 feet, in Afghanistan, Beluchistan, extending to Southern Europe. (*Mathieu, Fl. For., p. 205.*)

Wood grey, moderately hard, close-grained.

The fruit is sweetish, and is eaten fresh or dried by the Afghans. *Mathieu* says that in Southern France it is eaten when half-rotten like the *Medlar*.

H 3183. Dungagalli, Hazara, 5,000 feet.

**391 D. melanoxylon, Roxb. (Fl. Ind., ii. 530.)**

**Syn.**—*D. WIGHTIANA, Beddome (t. 67)* (including *D. TUPRU, Buch*; *D. EXCULPTA, Ham. (Beddome, t 66)*; and *D. TOMENTOSA, Roxb. (Fl. Ind., ii, 532.)*

**Vern.**—*Tendu, kendu, temru, abnús, HIND.*; *Kend, kyau, BENG.*; *Tiril, kiril, SONTHAL*; *Kend, MAL*; *Tumri, tummer, tumki, GOND*; *Tendu, BAIGAS.*; *Tumri, temru, timburni, MAR.*; *Tumbi, tumbali, karunthumb, TAM.*; *Tumi, tumki, tumida, timmurri, damádi, TEL.*; *Kendhu, URIYA*; *Balai, KAN.*

A moderate sized tree, common throughout India, but not in Burma.

Wood hard, of a light-pink colour, with irregular-shaped masses of black ebony in the centre. The ebony is jet black with purple streaks, extremely hard, pores and medullary rays difficult to distinguish. It is used for buildings, shoulder poles, and carriage shafts, and the ebony for all purposes of fancy work, and carving

		lbs.
P 170.	Hoshiarpur, Punjab ( <i>Stewart, 1866</i> ), the specimen referred to at p. 137 of the <i>Punjab Plants</i>	69
P 469.	Ajmere	59
O 1492.	Kheri, Oudh	55
O 2981.	Bahraich, Oudh	48
C 828.	Bairagarh Reserve, Berar	53
C 1113.	Ahiri Reserve, Central Provinces	...
C 2754.	Moharli Reserve, Central Provinces	...
C 1237.	Gumsúr, Madras	65
C 1301.	" "	77
C 1302.	" "	68
D 2008.	Mysore	73
D 2045.	" "	70
No. 26.	Salem Collection	82
C 3683	Palamow, Chutia Nagpur	63

**392 D. montana, Roxb. (Fl. Ind., ii. 538.)**

**Vern.**—*Hirek, keindu, temru, pasendu, PB.*; *Tendu, dasáundu, lohari, disténd, HIND.*; *Makar-tendi, BANDA*; *Pasend, BHURTPUR*; *Temru, MEYWAR*; *Ambia, BANSWARA*; *Hádrú, PANCH MEHALS*; *Kanchan, kadal, pattewar, patwan, C.P.*; *Muchi tanki, yerragoda, micha tum-murra, TEL.*; *Timru, timbúrni, MAR.*; *Goindu, kala goindu, balkuniki, jagalagante, KAN.*

A moderate sized tree of most parts of India except Sindh, the Northern Punjab, and Burma.

Wood yellowish-grey, soft, no heartwood, no annual rings. It is durable and would be good for furniture.

		lbs.
C 192.	Mandla, Central Provinces (1870)	47
C 1167.	Ahiri Reserve, Central Provinces	44

**Diospyros oocarpa, Thw. (Enum., 180.)**Vern.—*Kadoembaireya*, CINGH.

A middle sized tree of the Konkan, Mysore and Ceylon.

Wood purplish-brown, with black streaks, moderately hard; a handsome wood.

No. 40. Ceylon Collection (marked *Diospyros*, sp.) . . . lbs.  
45**D. pyrrhocarpa, Miq.**Vern.—*Tay*, BURM.

An evergreen tree of the Andaman Islands.

Wood reddish-brown, moderately hard to hard.

B 1991.	Andaman Islands ( <i>Kurz</i> , 1866)	. . .	lbs.
B 2244.	" " (1866)	. . .	50
			54

**D. quæsitâ, Thwaites (Enum., 129.)**

THE CALAMANDER WOOD.

Vern.—*Kaloomidereya*, CINGH.

A large tree of Ceylon.

Wood hard, consisting of irregular alternate layers of black ebony and greyish-brown wood. The most valuable ornamental wood in Ceylon; it is now scarce, but is much in demand.

D 2923.	S. India & Ceylon	. . .	lbs.
No. 12.	Ceylon Collection ( <i>D. hirsuta</i> )	. . .	53
			57

*Indeterminatæ.***D. sp. ? (*D. pilosa*, Wall).**

B 2232	. . . . .	lbs.
		61

Vern.—*Moong*, BURM.

The wood is hard, compact and close-grained, dark-purplish-grey with narrow streaks of jet-black ebony.

B 1997.	Andaman	. . . . .	lbs.
			49

A large tree collected by *Kurz* in 1866 with black wood; not identified.**DIPTEROCARPUS.****Dipterocarpus alatus, Roxb., DIPTEROCARPEÆ.**Vern.—*Garjan*, BENG. ; *Kanyin*, BURM.

A very large tree met with in Chittagong, Burma, and Andaman Islands.

Sapwood white; heartwood reddish-grey, moderately hard, smooth, mottled. It is used for house-building and canoes, but is not durable.

B. 818.	Burma	. . . . .	lbs.
B. 2243.	Andamans (1866) (rather eaten)	. . . . .	50
			38

**D. laevis, Ham.**Syn.—*D. TURBINATUS*, Hook (*Fl. Ind.*, i, 295, in part.)Vern.—*Kanyin*, *kanyin-nae*, BURM.

A lofty tree of the tropical forests throughout Burma.

DIPTEROCARPUS.

393

394

395

396

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398

## DIVI-DIVI.

Sapwood white; heartwood rough, reddish, soft; is rarely used, but is occasionally employed for planking and rafters.

B 292.	Burma (1867)	lbs.
B 2506.	„ (1862)	43
		49

*D. indicus* (Beddome, t. 94), Vern. *Guga, alwarra*, KAN., of the Western Ghâts is referred to this or to *D. turbinatus* by Dyer.

399 *Dipterocarpus obtusifolius*, *Teysm.*

Vern.—*Kanyin-kok*, BURM.

A large deciduous tree of the Eng forests of Prome and Martaban, ascending to 3,000 feet.

Heartwood reddish-brown, rough, moderately hard.

B. 3128.	Kya-eng, Attaran Valley, Burma	lbs.
		59

400' *D. tuberculatus*, *Roxb. (Fl. Ind., ii. 614.)*

THE ENG TREE.

Syn.—*D. GRANDIFLORUS*, Wall.

Vern.—*Eng*, BURM.; *Sooahn*, TALEING.

A large deciduous gregarious tree, forming the “Eng forests” of Burma, and Chittagong.

Wood red, hard. It is very largely used in Burma for building, canoes, and house posts.

B 2505.	Burma (1862)	lbs.
B 306.	„ (1867)	50
B 2480.	„	52
		59

401 *D. turbinatus*, *Gaertn. f.*

THE GARJAN-OIL TREE.

Vern.—*Gurjun, tiliyagurjun*, BENG.; *Kanyoung*, MAGH.; *Kanyin nee, kanyin-wettoung*, BURM.

A lofty evergreen tree, found in Eastern Bengal, Chittagong, Burma, and the Andaman Islands.

Wood rough, moderately hard; heartwood reddish-grey. It is used for house-building and for canoes in Burma. It yields a wood-oil or balsam.

E 709.	Chittagong	lbs.
B 293.	Burma (1867)	49
B 2216.	Andaman Islands ( <i>Major Ford</i> , 1866)	43
B 2555.	Burma (1862)	52
E 3690.	Chittagong Hill tracts (1882)	56
		51

402 *D. zeylanicus*, *Thwaites (Enum., 33.)*

Vern.—*Hord*, CINGH.

A large tree met with in Ceylon, up to 3,000 feet.

Heartwood red, moderately hard. It is used for building.

No. 37.	Ceylon Collection	lbs.
		45

## DIVI-DIVI.

403 *Divi-divi* or *Libi-dibi*.

The seed pods of *Cæsalpinia coriaria*, Willd., LEGUMINOSÆ; a tree 20

to 300 feet high, indigenous to the West Indies, Mexico, and Brazil, naturalised in the Madras and Bombay Presidencies, and in the North-West Provinces. The pod may be known by its drying into the shape of the letter S.

It grows freely in the Botanic Gardens, Calcutta, where seeds are distributed gratis to all applicants.

### DODONÆA.

**Dodonæa viscosa**, Linn., SAPINDACEÆ.

**Syn.**—*D. DIOICA*, Roxb., and *D. ANGUSTIFOLIA*, Linn. f. (Roxb., *Fl. Ind.*, ii, 256.)

**Vern.**—*Sanatta, mendru, ban mendu*, PB.; *Banderu*; C. P.; *Bandurgi, bandrike*, KAN.

An evergreen shrub, met with in the North-West Himalaya from the plains up to 4,500 feet, in the Punjab, Sindh, South India, ascending to 8,000 feet and attaining here the size of a small tree, in Burma, and planted throughout India for hedges.

Sapwood white; heartwood extremely hard and close-grained, dark-brown, with an irregular outline. It is used for engraving, turning, tool-handles and walking-sticks, and the branches to support the earth of flat roofs. It is likely to be important in re-clothing denuded tracts like the Siwalik hills of Hoshiarpur.

P. 894. Salt Range, Punjab.

### DOLICHANDRONE.

**Dolichandrone falcata**, Seem., BIGNONIACEÆ.

**Syn.**—*SPATHODEA FALCATA*, Wall. (*Beddome*, t, 71; *Brandis*, 350); *BIGNONIA SPATHACEA*, Roxb. (*Fl. Ind.*, iii, 103.)

**Vern.**—*Háwar*, OUDH; *Kanséri*, MEYWAR; *Mendal, manehingi*, BANSWARA; *Mersingi*, MAR.; *Udaa, wodi*, TEL.; *Mersingh*, BHIL; *Karanjelo*, KURKU; *Nir pongilam*, MAL.

A small deciduous tree, met with in Oudh, Rajputana, Central and South India.

Wood whitish, hard, close and even-grained, seasons well, shining and glossy; no heartwood. Annual rings indistinct. It is used for building and agricultural purposes.

	lbs.
C 1139. Ahiri Reserve, Central Provinces	42
W 995. Sahyádrí Gháts, Ahmednagar	43

**D. Rheedii**, Seem.

**Syn.**—*SPATHODEA RHEEDII*, Wall.

**Vern.**—*Deyadanga*, CINGH.; *Thakootma*, BURM.

A small tree of Burma, Malabar, Ceylon, and the Andamans. Wood white, soft.

	lbs.
B 2545. Burma (1862)	32
B 2252. Andaman Islands (1866)	39
No. 18. Ceylon Collection	23

**D. stipulata**, Seem.

**Syn.**—*SPATHODEA STIPULATA*, Wall. (*Kurz*, ii, 234); *BIGNONIA STIPULATA*, Roxb. (*Fl. Ind.*, iii, 103.)

**Vern.**—*Pettihan, malwa*, BURM.

A moderate sized deciduous tree of Burma and the Andaman Islands.

**DOLICHAN  
DRONE.**

404

405

406

407

DUABAN-  
GA.

Heartwood orange-red, beautifully mottled, hard, close-grained. The wood is used for bows, spear handles, oars, and paddles. Major Ford says it is a durable wood for house-posts, and makes good furniture.

B 2544. Burma (1862)	lbs.
B 2261. Andaman Islands (1866)	58
	54

## DOONA.

408 *Doona zeylanica*, Thwaites, DIPTEROCARPEÆ.

Vern.—*Doon*, CINGH.

A large tree of the central provinces of Ceylon.

Heartwood the colour of sâ, moderately hard. The wood is used for house-building.

No. 25. Ceylon Collection	lbs.
	29

## DRIMYCARPUS.

409 *Drimycarpus racemosus*, Hook. f., ANACARDIACEÆ.

Syn.—*HOLIGARNA RACEMOSA*, Roxb. (*Fl. Ind.*, ii. 82.)

Vern.—*Kagi*, NEPAL; *Brong*, LEPCHA; *Telsur*, BENG.; *Amdali*, ASS.; *Chengane*, *sangaipru*, *sangryn*, MAGH; *Amjour*, SYLHET.

A large evergreen tree of the Eastern Himalaya from 2,000 to 6,000 feet, the Khâsia Hills and Sylhet to Chittagong and Pegu.

Wood greyish-yellow, hard, close-grained. Used occasionally in Assam for canoes and planking; in Chittagong for boats, for which it is one of the woods most employed. Major Lewin says that boats 50 feet long and 9 feet in girth are sometimes cut.

E 722. Chittagong	lbs.
	61

## DRYOBALANOPS.

410 *Dryobalanops Camphora*, Colebr., DIPTEROCARPEÆ.

A tree of Sumatra.

It yields the camphor of commerce.

## DUABANGA.

411 *Duabanga sonneratioides*, Buch., LUTHRAREÆ.

Syn.—*LAGERSTROMIA GRANDIFLORA*, Roxb. (*Fl. Ind.*, ii. 503.)

Vern. *Bandorhulla*, BENG.; *Lampatia*, NEPAL; *Dâr*, LEPCHA; *Kochan*, *kokan*, ASS.; *Jarûl-jhalna*, CACHAR; *Bondorkella*, *achûng*, *bolchin*, GARO; *Baichua*, MAGH.; *Myoukgnau*, BURM.

A lofty deciduous tree, with light-brown bark, peeling off in thin flakes, a native of Eastern Bengal, ascending to 3,000 feet, Assam, and Burma.

Wood grey, often streaked with yellow, soft, seasons well, neither warps nor splits. Canoes cut out of it green are at once used, even when liable alternately to wet and the heat of the sun. Is used in Northern Bengal

## DYSOXYLUM.

and Assam very extensively for tea-boxes, for which purpose it is admirably fitted. It is also made into canoes and cattle troughs.

	lbs.
E 3622. Kalimpong, Darjeeling, 2,000 feet . . . . .	—
E 652. Rakti Forest, Darjeeling Terai . . . . .	32
E 2380. Sukna Forest, Darjeeling Terai . . . . .	32
E 950. Eastern Dúars, Assam . . . . .	32
E 1230. Sibsagar, Assam . . . . .	36
E 1436. Assam . . . . .	29
E 1285. Cachar . . . . .	32
E 1499. Sylhet . . . . .	...
E 713. Chittagong . . . . .	31
B 807. Pegu . . . . .	30
B 1995. Andamans ( <i>Kurz</i> , 1866) (young tree) . . . . .	21

Durable woods. See APPENDIX.

## DYSOXYLUM.

412

## Dysoxylum binectariferum, Hook. f., MELIACEÆ.

Syn.—*D. MACROCARPUM*, Bl. (*Beddome liv, t, 150*); *GUAREA BINECTARIFERA*, Roxb. (*Fl. Ind., ii, 240*.)

Vern.—*Katongsu*, LEPCHA; *Rangirata*, CACHAR; *Borogatodhara*, Ass.

A large evergreen tree of Sikkim, ascending to 2,000 feet, of Assam, Khásia Hills, Chittagong, and the Western Ghâts.

Wood reddish-grey, rough, and close-grained, hard; worthy of notice.

	lbs.
E 644. Khyrbani Forest, Darjeeling Terai . . . . .	44

## D. Hamiltonii, Hiern.

413

Vern.—*Bauriphal*, NEPAL; *Gendelli poma*, *bosuniya poma* (Wall), Ass.; *Bolashin*, GARO.

A large evergreen tree of the Darjeeling Terai, Assam and Sylhet.

Wood red, hard, close-grained.

Used in Assam for boats and planks; said not to be durable. Hamilton says it is used for canoes.

	lbs.
E 1259. Tezpur, Assam . . . . .	47
E 2189. Nowgong, Assam . . . . .	36

## D. procerum, Hiern.

414

Vern.—*Dingori*, *govorpongyota* (Wall), Ass.

An evergreen tree of Assam, Khásia Hills and Cachar to Pegu and Tenasserim, of Sikkim and Western Dúars.

Wood bright red, moderately hard; handsome and well deserving of more extensive notice.

It is said by Hamilton to be used for canoes.

	lbs.
E 631. Eastern Duars . . . . .	40
E 1434. Assam . . . . .	37
E 3595. Randung Forest, Darjeeling Terai . . . . .	...
B 2484 (44 lbs.), B 2250 (40 lbs.), and B 2255 (31 lbs.) from the Andaman Islands (1866) have been put under this species on account of their structure, although <i>Dysoxylum</i> has not been described from the Andamans.	



## EHRETIA.

## ECHINOCARPUS.

415. *Echinocarpus dasycarpus*, Benth., SILLIACEÆ.Vern.—*Gobria*, NEPAL.

A large tree of the Eastern Himalaya, from 5,000 to 7,000 feet. (Hooker in *Flora Indica* says: "Sikkim at 2,000 feet," but I have never seen it below 5,000 feet.—J.S.G.)

Wood greyish-brown, soft; used for planking for tea-boxes and to make charcoal.

It is in considerable demand in Darjeeling.

E. 694.	Chuttokpur, Darjeeling, 6,000 feet	lbs.
		32

## EDGEWORTHIA.

416. *Edgeworthia Gardneri*, Meisn., THYMELÆACEÆ.Vern.—*Kaghubi*, *aryiii*, NEPAL.

A large elegant bush, almost leafless when covered with its clusters of yellow sweet-scented flowers. Found along the Himalaya from Nepal to Sikkim and Bhutan, and recently found plentiful on the mountains of Manipur, extending to the northern frontier of Burma. Between 4,000 and 9,000 feet altitude.

Wood grey, light, soft, with little lustre.

## EHRETIA.

417. *Ehretia laevis*, Roxb., BORAGINÆÆ.

Vern.—*Chamrûr*, *kôda*, *darûr*, *datranga*, HIND.; *Chumbul*, SIND; *Tambol*, BANDA; *Mosonea*; *URIYA*; *Dotti*, *disti*, *gilchi*, GOND; *Datrang*, MAR. *Paldatam*, *reda pul-mera*, *seregad*, TEL.; *Koppura*, KAN.

A moderate sized tree, found on the Sulimán Range, Punjab, sub-Himalayan tract, in Oudh, Bengal, Burma, the Andaman Islands, and Central and South India.

Wood greyish-white, hard, tough, durable.

It is used for agricultural implements and building. The fruit is eaten as is also the inner bark in times of famine.

		lbs.
O 257.	Garhwal (1868)	33
C 1155.	Ahiri Reserve, Central Provinces	38

418. *E. obtusifolia*, Hochstetter.

Vern.—

A small shrub of the Salt Range in the Punjab, Sind, and Rajputana. Wood resembling in structure that of *E. laevis*.

P 3245. Ajmere.

(Specimens wanted.)

419. *E. Wallichiana*, Hook. f., and Th.Vern.—*Boeri*, *dowari*, NEPAL; *Kalet*, LEPCHA.

A large tree met with in the Darjeeling forests, from 2,000 to 7,000 feet; sometimes gregarious.

Wood grey, moderately hard. Annual rings marked by light-coloured beks.

It is used for building, for charcoal, and occasionally for making tea-boxes.

		lbs.
E. 690.	Sepoydura Forest, Darjeeling, 5,500 feet	33
E. 3597.	Darjeeling 6,000 feet	...
E. 3601.	Darjeeling	...

## ELÆOCARPUS.

### ELÆAGNUS.

#### *Elæagnus hortensis*, *M. Bieb.*, ELÆAGNEÆ.

**Syn.**—*E. ANGUSTIFOLIA*, *Linn.*; *E. MOORCROFTII*, *Wall.*

**Vern.**—*Sanjit*, AFG., *Sirshing*, TIBET; *ShiúAk*, N. W. P.

A small tree of Ladak, Baltistan and Afghanistan; extending to the Mediterranean region.

Sapwood narrow; heartwood dark-brown, porous, soft.

Used for fuel. Weight 36 to 41 lbs. per cubic foot.

420

#### *E. latifolia*, *Linn.*

**Syn.**—*E. CONFERTA*, *Roxb.*

**Vern.**—*Ghiwáin*, *mijhaua*, KUMAUN; *Jarila*, NEPAL.; *Guara*, BENG.; *Kamboong*, MAGH.

A straggling evergreen shrub or small tree, found in the Himalaya, from Kumaun to Bhutan, Khásia Hills, Eastern Bengal, and South India.

		lbs.
E 2407.	Tukdah, Darjeeling, 5,000 feet	45

421

#### *E. umbellata*, *Thunb.*

**Vern.**—*Ghiwáin*, *ghain*, *kankoli*, *bammewa*, PB.

A thorny, deciduous shrub, found in the Himalaya, from near the Indus to Bhutan, between 3,000 and 10,000 feet.

Wood white, hard, even-grained, warps in seasoning.

		lbs.
H 71.	Mashobra, Simla, 7,000 feet	45

422

### ELÆOCARPUS.

#### *Elæocarpus lanceæfolius*, *Roxb.*, TILIACEÆ.

**Vern.**—*Bhadras*, *batrachi*, NEPAL *Shepkyew*, LEPCHA; *Sakalang*, ASS.

A large tree of the Eastern Himalaya from 6,000 to 8,000 feet; the Khásia Hills. Sylhet, and Tenasserim.

Wood soft, light-brown.

It is used for house-building, tea-boxes, and charcoal.

		lbs.
E 358.	Rangbúl, Darjeeling, 7,000 feet	41

423

#### *E. robustus*, *Roxb.* (*Blume in Gamble.*)

**Vern.**—*Jalpai*, SYLHET; *Bepari*, *batrachi*, NEPAL; *Chekio*, MAGH; *Tau-magye*, BURM.

An evergreen tree of the Eastern Himalaya, ascending to 2,000 feet, the Khásia Hills, Eastern Bengal, Chittagong, Burma, and the Andaman Islands.

Wood white, shining, soft, even-grained.

		lbs.
E 581.	Khookloong Forest, Darjeeling Terai	38

424

ENGEL-  
HARDTIA.

## ELÆODENDRON.

425 *Elæodendron glaucum*, Pers., CELASTRINÆ.

Syn.—*E. PANICULATUM*, W. & A. (*E. ROXBURGHII*, W. & A., in Gamble);  
*NERIJA DICHOTOMA*, Roxb.

Vern.—*Mirandā, padriān, bakra, janwa*, PB; *Bakra, shauria, chauli, dabe-ri, māmri*, N.-W. P.; *Chauri, methūr*, OUDH; *Chikyeng*, LEPCHA; *Jam-rāsi, kala rukha, rohi*, C. P.; *Dhakka, nisur*, GOND; *Niru*, KURKU; *Aran, tamruj*, MAR.; *Bata karas*, BHIL; *Karkava, irkuli, selupa, siri*, TAM.; *Nirija, neradi, botanskam, kanemis, bootigi*, TEL.; *Bhutrakshi*, HYDERABAD; *Bhutāpālā, chutayā, tāmaruja, nerrelu*, CINGH; *Miri, Neouri*, SONTAL; *Tonki*, MAL.

A tree of the Sub-Himalayan tract from the Ravi eastwards, of Central and South India.

Wood moderately hard, even and close-grained, works and polishes well, light-brown, often with a red tinge; the outer wood white, but no distinct sapwood; no annual rings. It is often beautifully curled and flaked.

It is used for cabinet work, combs and picture frames.

	lbs.
O 235. Garhwal (1868) . . . . .	56
O 2991. " (1874) . . . . .	48
C 183. Mandla, Central Provinces (1870) . . . . .	50
C 1182. Ahiri Reserve, Central Provinces . . . . .	55
C 2781. Mēlghāt, Berar . . . . .	49
E. 2335. Bamunpokri, Darjeeling Terai . . . . .	57
No. 63. Ceylon Collection . . . . .	56
P. 460. Ajmere.	

## ELSCHOLTZIA.

426 *Elscholtzia polystachya*, Benth., LABIATÆ.

Vern.—*Rangchari, mehndi*, JHELAM; *Garādar, tappaddar*, CHENAB; *Diss, Ravi; Pothi, SUTLEJ; Bhangria*, KUMAUN.

A shrub of the North-West Himalaya, from the Jhelam eastwards, and of the Khāsia Hills, from 6,000 to 10,000 feet.

Wood grey, moderately hard, splits and cracks, and in seasoning separates into concentric masses. Annual rings distinctly marked by a belt of numerous and larger pores in the spring wood. Common in forest undergrowth, growing often to 10 or 12 feet high.

	lbs.
H 2841. } Mahasu, Simla, 7,000 feet . . . . .	42
H 2936. }	

## ENGELHARDTIA.

427 *Engelhardtia Colebrookiana*, Lindl., JUGLANDÆ.

Vern.—*Timar rākh, PB; Mowa, gobar mowa, bodal mowa, mao*, KUMAUN; *Khusam*, BANDA.

A small deciduous tree of the outer North-West Himalaya ascending to 6,500 feet; often gregarious.

Wood grey with a reddish tinge, moderately hard, even-grained, seasons and polishes well, but is not durable.

	lbs.
H 241. Garhwal Hills (1868) . . . . .	33

**Engelhardtia spicata, Bl.**

**Syn.**—*E. ROXBURGHIANA*, Lindl.; *JUGLANS PTEROCÛCCA*, Roxb.

**Vern.**—*Silapoma*, HIND.; *Mowa, mahua*, NEPAL; *Suvial*, LEPCHA; *Bolas*, BENG.; *Rumgach*, ASS.; *Bor-patta-jaw*, CACHAR; *Dinglaba*, KHASIA; *Vakru*, GARO.

A large, handsome, deciduous tree, found in the Terai and outer hills of Eastern Himalaya up to 6,000 feet, in Chittagong and Burma.

Character and structure of the wood similar to that of *E. Colebrookiana*, showing a beautiful grain on a radial section.

It is used in Sikkim for tea-boxes and building; in the Khásia Hills and Cachar for planking and spoons. It does not warp.

E 653.	Bamunpokri, Darjeeling Terai	lbs.
E 687.	Sepoydura Forest, Darjeeling, 5,000 feet	30
E 2442.	Chuttockpur Forest, Darjeeling, 6,000 feet	36

EPHEDR

428

**ENKIANTHUS.****Enkianthus himaliacus, Hook. f., and Th., ERICACEÆ.**

**Vern.**—*Chothu*, NEPAL.

A small tree of Sikkim Himalaya, 10,000 to 12,000 feet.

Wood white, moderately hard, even-grained. Growth slow, 40 rings per inch of radius.

E 976.	Chumbi Valley, Tibet, about 10,000 feet.
E 3725.	Tonglo, Darjeeling, 10,000 feet.

429

**ENTADA.****Entada scandens, Bl., LEGUMINOSÆ.**

**Syn.**—*E. PURSETHA*, D C.; *MIMOSA SCANDENS*, Roxb.

**Vern.**—*Gilla*, BENG.; *Geredi*, URIYA; *Pangra*, NEPAL; *Taktokhyem*, LEPCHA; *Gardal*, BOM.; *Kongnyin-nway*, BURM.

A large climber of the forests of Eastern Bengal, South India, Burma, and the Andaman Islands.

Stems spirally twisted. Wood soft, fibrous, spongy.

(Specimens wanted.)

430

**EPHEDRA.****Ephedra Alte, C. A. Meyer, GNETACEÆ.**

**Vern.**—*Alte*, ARAB.; *Kuchan, nikki-kurhan, bra'qa, tandala, last tük, man-garmal*, PB.

A gregarious shrub of the arid zone, in stony places in the Punjab and Sind.

Bunches of the stem and branches sometimes used for cleaning brass dishes.

(Specimens wanted.)

431

**E. vulgaris, Rich.**

**Vern.**—*Asmânia, budshur, chewa*, PB.; *Khanda, khama*, KUNAWAR; *Tse, tsapatt, trans*, LADAK.

A small rigid shrub of the inner arid North-West Himalaya.

Wood whitish-yellow. Occasionally used as fuel.

(Specimens wanted.)

432

ERIOGLOS-  
SUM.

## ERIOBOTRYA.

- 433 *Eriobotrya bengalensis*, *Hook. f.*, ROSACEÆ.  
*Syn.*—*MESPILUS BENGALENSIS* *Roxb.*; *MESPILUS TINCTORIA*, *Don Prod. Nep.*  
*Vern.*—*Berkung*, LEPCHA.  
 A small tree of the Eastern Himalaya, Sikkim, altitude 4,000 feet, of the Khásia Hills, Chittagong and Ava.  
*E* 3664.  
 (Specimens wanted.)
- 434 *E. dubia*, *DCNE.*  
*Syn.*—*PHOTINIA DUBIA*, *Lindl.*  
*Vern.*—*Berkung*, LEPCHA.  
 " A small tree of the North-East Himalaya, from 5,000 to 6,000 feet. Wood white, soft, even-grained. Weight 46 lbs. per cubic foot.  
*E* 2365. Rangbúl, Darjeeling, 7,000 feet. . . . 46 lbs.
- 435 *E. elliptica*, *Lindl.*  
*Vern.*—*Mihul, mya*, NEPAL; *Yelnyo*, LEPCHA.  
 A moderate sized evergreen tree of Sikkim and Bhutan Himalaya, from 6,500 to 8,000 feet.  
 Wood reddish-brown, compact, hard, apt to warp slightly; it is good but not used. Weight 58 lbs. per cubic foot.  
*E* 366. Rangbúl, Darjeeling, 7,000 feet. . . . 58 lbs.  
*E* 3109. Darjeeling, 7,000 feet.  
*E* 3664. Darjeeling, 7,000 feet.

## ERIODENDRON.

- 436 *Eriodendron anfractuosum*, *DC.*, MALVACEÆ.  
 THE WHITE COTTON TREE.  
*Syn.*—*BOMBAX PENTANDRUM*, *Roxb.*  
*Vern.*—*Safed simal, senibal, hatian, katan, huntan*, HIND.; *Shwet simul*, BENG.; *Ilavam, ellava maram*, TAM; *Baruga, kadam pur*, TEL.; *Shamirida*, MAR.; *Pania*, MAL.; *Trubul*, CINGH.  
 A tall, deciduous tree of India and Burma, found throughout the hotter parts.  
 Wood soft. Weight about 30 lbs. per cubic foot.

## ERIOGLOSSUM.

- 437 *Erioglossum edule*, *Bl.*, SAPINDACEÆ.  
*Syn.*—*E. RUBIGINOSUM*, *Bl.*; *SAPINDUS RUBIGINOSA*, *Bl.*  
*Vern.*—*Ritha*, HIND.; *Ishi, rashi*, TEL.; *Manipangam*, TAM.; *Tseikchay*, BURM.  
 A large tree of Sikkim, Assam, South India, and Burma.  
 Wood, according to Roxburgh, strong and durable, with chocolate-coloured heartwood.  
*No. 23. Brandis' Burma List, 1862, marked Sapindus* . . . 66 lbs.  
 108

## ERYCIBE.

## ERIOŁÆNA.

**Eriolæna Candollei, Wall., STERCULIACEÆ.**Vern.—*Dwaneë*, BURM.

A deciduous tree, found in Burma.

Heartwood brick-red, with orange and brown streaks, old pieces, however, losing their bright colour; hard, close-grained, shining, takes a beautiful polish, seasons well. Weight about 50 lbs. per cubic foot.

It is used for gunstocks, paddles, and rice pounders, is very handsomely marked, and is well worthy of attention.

		lbs.
B 286.	Burma (1867) . . . . .	41
B 326.	" " . . . . .	53
B 1455.	" . . . . .	54
B 2512.	" (1862) . . . . .	56

**E. Hookeriana, W. & A.**

Vern.—*Nar-botku*, TEL.; *Arang*, BERAR; *Kutki, bhonder*, GOND; *Bündün, oit bulung*, KOL.; *Ponra*, ORAON; *Gua goli*, SONTAL; *Gua kasi*, MAL.

A small tree of Central and South India.

Wood light-red. Annual rings marked by an almost continuous line of pores.

C 3191. Chanda, Central Provinces.

3437. Kumandi Reserve, Palamow, Chutia Nagpur.

**E. spectabilis, Planch.**Vern.—*Nar-botku*, TEL.; *Arang*, BERAR; *Kutki, bhonder*, GOND.

A small tree of the Central Himalaya to Nepal. Dr. Watt found it plentiful everywhere on the dry, red clay hills in the arid districts of Manipur.

Wood hard and close-grained. Heartwood light red; sap wood grey.

E 3707. Calcutta B. Gardens.

**E. Wallichii, DC.**Vern.—*Kubindé*, NEPAL.

A small tree of Nepal and Sikkim Himalaya.

Sapwood grey; heartwood reddish-brown, hard, mottled.

Wood much esteemed by Nepalese.

		lbs.
E 2326.	Bamunpokri, Darjeeling . . . . .	40

## ERYCIBE.

**Erycibe lævigata, Wall., CONVULVULACEÆ.**

Vern.—

A straggling shrub met with in the Sikkim Himalaya at 5,000 to 6,000 feet, and in the Khásia Hills at about 4,000 feet.

Wood greyish white, similar in general structure and the arrangement of the woody masses, separated by lines of cellular tissue, to that of *E. paniculata*, Roxb.

E 3726. Sureil Darjeeling, 5,500 feet.

## ERYTHRINA.

443

*Erycibe paniculata*, Roxb.Vern.—*Urumin*, KOL.

A diffuse or sub-scandent shrub, or an erect tree, 40 feet, found throughout India from Oudh eastward, and southward to Ceylon, Tenasserim, and the Nicobars.

Wood soft, porous.

C 3497. Ghatsila, Dhalbhum.

## ERYTHRINA.

444

*Erythrina arborescens*, Roxb., LEGUMINOSÆ.Vern.—*Rungara*, KUMAUN; *Rodinga*, *fullidha*, NEPAL; *Gyesa*, LEPCHA; *Dingsong*, KHASI.

A small or moderate sized tree found in the outer Himalaya from the Ganges to Bhutan up to 7,000 feet, and in the Khásia Hills.

The wood has a similar structure to that of *E. suberosa* and *indica*, but it is more compact, less spongy, and has more numerous concentric bands of soft texture.

E 3106. Darjeeling, 7,000 feet.

E 3330. Darjeeling, 7,000 feet.

445

*E. indica*, Lam.

THE INDIAN CORAL TREE.

Vern.—*Pangra*, *panjira*, *pangara*, *farad*, HIND. and BOM.; *Palita mandar*, BENG.; *Murukā*, TAM.; *Modugu*, TEL.; *Pangara*, *phandra*, MAR.; *Haliwara*, *paliwara*, KAN.; *Chaldua*, *paldua*, URIYA; *Birsing*, LOHARDUGGA; *Pharad*, MONGHYR; *Madar*, CACHAR; *Katheik*, MAGH.; *Pen-laykathit*, BURM.; *Dudap*, MALAY; *Errabadu*, CINGH. (*Mochi* wood of Madras).

A small tree, wild in Oudh, the mountains of Bengal, Assam, Manipur, Burma, and South India; largely cultivated in the plains as a hedge plant.

Wood rather durable, though it is so light and open-grained, it does not warp or split, and it varnishes well. Structure the same as that of *E. suberosa*.

It is used for light boxes, toys, scabbards, trays.

	lbs.
C 820. Bairagarh Reserve, Berar . . . .	17
B 2343. Myanounng, Burma . . . .	18
B 2223. Andaman Islands (1866) . . . .	26

446

*E. stricta*, Roxb.Vern.—*Mouricon*, *kichige*, KAN.; *Toung kathit*, BURM.; *Falleto*, *fullidha*, NEPAL.

A large tree of Burma and the western half of the Peninsula.

Wood soft, resembling that of *E. suberosa*.

It is sometimes used for planks.

	lbs.
E 2344. Bamunpokri, Darjeeling Terai . . . .	16

447

*E. suberosa*, Roxb.

Vern.—*Pangra*, *dauldhak*, *rungra*, *rowanra*, *nasut*, *madra*, HIND.; *Gulinashitar*, *pariara*, *thab*, PB.; *Fullidha*, NEPAL; *Mandal*, GARO; *Katiang*, LEPCHA; *Muni*, *maduga*, TAM.; *Mulu modugu*, TEL.; *Phangera*, GOND; *Gada phassa*, KURKU; *Farhud*, KHARWAR.

A moderate sized deciduous tree of the Himalaya from the Ravi to Bhutan, ascending to 3,000 feet, of Oudh, Central and South India, and Burma.

Wood very soft, spongy, white, fibrous but tough; that near the centre of darker colour, but no regular heartwood.

It is used for scabbards, sieve-frames, and occasionally for planking.

		lbs.
Ó	530. Dehra Dún . . . . .	20
C	1145. Ahiri Reserve, Central Provinces . . . . .	...
E	668. Bamunpokri, Darjeeling Terai . . . . .	13

## ERYTHROXYLON.

**Erythroxylon burmanicum**, *Griff*, *LINEÆ*.

Vern.—

A tree of Burma and the Andamans.  
(Specimens and information wanted.)

**E. monogynum**, *Roxb.*

BASTARD SANDAL.

Syn.—*E. indicum*, *Beddome*; *Sethia indica*, *DC.*

Vern.—*Devadarā*, *dwadarum*, *TAM.*; *Adivi gerenta*, *TEL.*

A small tree of South India and Ceylon.

Sapwood white; heartwood dark-brown, with a pleasant resinous smell, very hard, takes a beautiful polish.

Used as a substitute for sandalwood (*Santalum album*.)

		lbs.
D	1083. North Arcot . . . . .	55
D	1091. Madura . . . . .	66
D	1027. Mysore . . . . .	67

**E. Roxburghiana**, *Benth.*

Syn.—*E. triphylla*, *Beddome*; *Fagara triphylla*, *Roxb.*; *Xanthoxylum triphyllum*, *Thwaites*.

Vern.—*Nebede*, *lunuankenda*, *CINGH.*

A small tree of the Khásia Hills, South India, and Ceylon, Tenasserim, and the Andaman Islands.

Wood greyish-brown, moderately hard.

		lbs.
No. 60.	Ceylon Collection . . . . .	51

**E. triphylla**, *DC.*

Vern.—

A meagre slender shrub, 3 to 5 feet high, frequent in the damp hill forests, entering the drier ones, from Martaban down to Tenasserim, at 3,000 to 5,000 feet elevation.

Wood light, pale-pinkish, close-grained, straight, fibrous, with silvery lustre. (*Kurz.*)

## EUCALYPTUS.

**Eucalyptus Globulus**, *Labill.*, *MYRTACEÆ*.

THE BLUE GUM.

Vern.—*Kurpoora maram*, *MADRAS.*

A lofty tree, gregarious in Victoria and the south of Tasmania. Introduced on the Nilgiris, and now completely naturalised.

Wood strong and tenacious, durable, extensively used in Australia

**EUCALYPTUS.**

448

449

450

451

452



## EUGENIA.

for beams, railway sleepers, piers and bridges; also for ship-building. The wood from the Nilgiri plantations has scarcely been used, except for firewood or charcoal. In Australia the wood is brown, hard, tough, durable. The wood of a tree grown on the Nilgiris, 18 years old and 95 feet high, is grey, with darker streaks and moderately hard.

W 1094.	Nilgiri Hills, 7,400 feet, age 18 years,	lbs.
	height 95 feet . . . . .	43
W 1095-8.	Nilgiri Hills, 6,000 feet, age 2, 3, 4, 5	
	years, height 42, 43, and 60 feet . . .	...

## EUGENIA.

453 *Eugenia formosa*, Wall., MYRTACEÆ.

Syn.—*E. TERNIFOLIA*, Roxb.

Vern.—*Bara jaman*, NEPAL; *Bunkonkri*, MECHI; *Bolsobak*, pandridung, GARO; *Famsikól*, LEPCHA.

A moderate sized evergreen tree of the Eastern Himalaya and sub-Himalayan tract, near streams, of Chittagong and Tenasserim.

Bark greyish-white, smooth, thin. Wood grey, hard.

E 2956.	Tista Valley, Darjeeling . . . . .	lbs.
		61

454 *E. grandis*, Wight.

Syn.—*E. CYMOSA*, Roxb. (*Fl. Ind.*, ii, 492.)

Vern.—*Jam*, BENG.; *Battijamb*, SYLHET; *Zebri*, MAGH; *Toung thabyay*, BURM.

An evergreen tree of Eastern Bengal, Burma, and the Andaman Islands.

Wood red, rough, hard.

B 314.	Burma (1867) . . . . .	lbs.
B 2256.	Andaman Islands (1866) . . . . .	51
		52

B 2713, 48 lbs., brought from Tavoy by Dr. Wallich in 1828, has a structure similar to that of *E. grandis*.

455 *E. Heyneana*, Wall.

Syn.—*E. SALICIFOLIA* Wight.

Vern.—*Panjam-búl*, MAR.; *Hendi*, GOND; *Gambu*, KURKU; *Gara kúd*, SONTAL.

A large shrub or small tree of the Bombay Ghâts, Berar, and Central Provinces.

Wood similar to that of *E. Jambolana*, but pores smaller.

C 2786.	Melghát, Berar . . . . .	lbs.
E 3439.	Ramundag Reserve, Palamow, Chutia Nagpur.	38

456 *E. Jambolana*, Lam.

Vern.—*Jamoon*, jéman, jám, *phalinda*, *jamni phalini*, *pharanda*, *phaunda*, *paiman*, HIND.; *Jam*, BENG.; *Jamo*, URIYA; *Phoberkúng*, LEPCHA; *Chambu*, GARO; *Kudo*, *kud*, SONTAL; *Jam*, MAL; *Kuda*, KOI; *Jambún*, ORAON; *Kor-jam*, MECHI; *Jamu*, ASS.; *Naval*, *narvel*, *nawar*, *naga*, TAM.; *Nerale*, MYSORE; *Narala*, KAN.; *Nasedu*, *nairuri*, *narayr*, TEL.; *Naindi*, GOND; *Jambúl*, MAR.; *Mahadan*, CINGH.; *Zebri*, *chaku*, *kau*, MAGH; *Jambool*, BOM.; *Thabyai-pyoo*, BURM.

A moderate sized evergreen tree, found wild or in cultivation all over India, from the Indus eastward, ascending to altitude 5,000 feet.

## EUGENIA.

Wood reddish-grey, rough, moderately hard, darker near the centre ; no distinct heartwood. It is fairly durable. Five sleepers of it were laid down in 1870 on the Oudh and Rohilkhand Railway, and taken up in 1875, when they were reported to be fairly sound and not touched by white-ants. It is used for building, agricultural implements and carts, also for well-work, as it resists the action of water well.

P 1192. Madhopur, Punjab	lbs. 40
P 452. Ajmere	44
O 209. Garhwal (1868)	51
O 210. " "	47
O 211. " "	49
O 224. " "	44
O 239. " "	40
O 2993. " (1874)	47
O 527. Dehra Dun	59
O 535. " "	64
O 875. Mohun Forest, Kumaun Bhabar	58
O 337. Gorakhpur (1868)	51
O 338. " "	42
C 199. Mandla, Central Provinces (1870)	52
C 1135. Ahiri Reserve, Central Provinces (with a slightly different structure)	56
C 2761. Moharli Reserve, Central Provinces	43
C 1251. Gumsur, Madras	57
E 664. Rakti Forest, Darjeeling Terai	54
E 2377. Sivoke Forest " "	44
E 1396. Chittagong	48
E 1958. " "	48
E 413. Sundarbans	...
E 3598. Darjeeling Terai	...
B 3065. Burma (1862)	52
No. 61. Ceylon Collection	36

E. 2199 (43 lbs.) received from Assam under the name of *E. mangifolia*, Wall. (*Hook. Fl. Ind.*, ii, 480), resembles in structure *E. Jambolana*.

B 2292 (56 lbs.) received from the Andamans in 1866 under the name of *Eugenia sp.* has a moderately hard, compact, grey wood, with the structure similar to that of *E. Jambolana*, which is not yet known to grow in the Andamans.

No. 1 of Adrian Mendis' Ceylon Collection (49 lbs.) is *E. sylvestris*, Wight (*Hook., Fl. Ind.*, ii, 493; *Beddome, cvii*), *Syzygium sylvestre*, Thwaites (*Enum.*, 116, vern. *Alubo*, CINGH.). In structure it resembles *E. Jambolana*.

**Eugenia juvanica, Lamk.**

Syn.—*E. ALBA*; Roxb.

Vern.—

A trec of Malacca, the Andaman and Nicobar Islands.

E 3716.

**E. Kurzii, Duthie.**

Syn.—*E. CERASIFLORA*, Kunt.

Vern.—*Jémun*, NEPAL; *Sunom*, LEPCHA.

A large evergreen tree, met with in the hills of Bengal and Burma, from 3,000 to 6,000 feet.

Wood reddish-grey, moderately hard, rough.

E 701. Sepoydura Forest, Darjeeling, 5,500 feet	lbs. 56
E 2955. Tukdah Forest, Darjeeling, 5,000 feet (young tree)	37

**EUGENIA:**

459

**Eugenia malaccensis, Linn.**Vern.—*Thabyoo-thabyay*, BURM.

A moderate sized evergreen tree, cultivated in Bengal and Burma for its fruit.

Wood reddish-grey, rough, soft. Weight, Wallich gives 30, our specimen 38 lbs. per cubic foot.

B 309. Burfna (1867) . . . . . lbs.  
38

460

**E. operculata, Roxb.**Var. I. *Operculata*, proper.Syn.—E. CERASOIDES, Roxb. (*Kurz*, 484); SYZYGIVM NERVOSUM, DC.; EUGENIA NEROOSA, Bedd. (non DC. as in *Gamble*.)Vern.—*Raijamar paiman*, *jamawa dūgdugia*, HIND.; *Topa*, KOL.; *Tea-thaby-ay* (*Yethabyay*), *thabyay-chin*, BURM.

A moderate sized or even large evergreen tree, met with in the sub-Himalayan tract from the Jumna to Assam up to 2,000 feet, in the forests of Chittagong, Burma, the Western Ghâts, and in Ceylon up to 3,000 feet.

Wood reddish-grey, hard; used for building and agricultural implements.

O 334. Gorakhpur (1868) . . . . . lbs.  
B 305. Burma (1867) . . . . . 51  
43

461

Var. II.—*Paniata*, Sp., Roxb. (*Kurz*, 1,483).

Found in Chittagong, Sylhet, and Burfna.

(Specimens are wanted.)

462

Var. III. *Obovata*, Kurz, Sp. (*Wall*, *Gamble* 194.)Vern.—*Kiamoni*, NEPAL; *Jung song*, LEPCHA; *Boda-Jam*, MECHI.

Found in the savannah forests of Bengal and Burma.

Wood grey, rough, moderately hard.

E 584. Khookloong Forest, Darjeeling Terai . . . . . lbs.  
51

463

**E. Sp.**Vern.—*Thabyay*, BURM.

A tree with hard, close-grained, red wood, found in Burma.

B 316. Burma (1867) . . . . . lbs.  
55

464

**E. tetragona, Wight.**

Syn.—E. PÆCOX, Roxb.

Vern.—*Kemma*, *chamlani*, NEPAL; *Sunóm*, LEPCHA.

A large evergreen tree, found in the hills of Northern Bengal up to 6,000 feet, and in Chittagong.

Wood brownish or olive-grey, shining, hard.

It is used occasionally for building, and for the handles of tools, and for charcoal.

E 682. Sepoydura Forest, 5,500 feet, Darjeeling . . . . . lbs.  
E 1446. Mishmi Hills (*Griffith*, 1836) . . . . . 46  
48

465

**E. zeylanica, Wight.**Vern.—*Sagarabatna*, URIYA.

A small myrtle-like shrub of the scrub forests in Orissa.

Wood grey, hard, close-grained.

C 3582. Khurda Forests, Orissa.

EUONY-  
MUS.

## EUONYMUS.

**Euonymus frigidus, Wall., CELASTRINEÆ.**

Vern.—

A straggling shrub found in the Himalaya from Kumaun to Bhutan from 8,000 to 12,000 feet.

Wood yellowish-white, moderately hard, compact.

E 3406. Tonglo, Darjeeling, 10,000 feet.

**E. grandiflorus, Wall.**

Syn.—E. LACERUS, Ham. (Gamble, 84.)

Vern.—*Siki, pattali, papar, banchir, dydhapir, hanchu, pash, mara, chikan, rangchul, kioch*, P.B.; *Gule, grui*, SIMLA.

A small deciduous tree of the Himalaya, from the Indus to Sikkim between 6,000 and 11,000 feet.

Wood white, moderately hard, exceedingly compact, close and even-grained. Weight, 48 lbs. per cubic foot.

It is used for carving.

				lbs.
H 67.	Nagkanda, Simla, 9,000 feet	.	.	48
H 2883.	" " "	.	.	46
H 3011.	" " "	.	.	49
H 3187.	Dungagalli, Hazara, 8,000 feet	.	.	...

**E. Hamiltonianus, Wall.**

Syn.—E. ATROPURPUREUS, Roxb.

Vern.—*Siki, singi, chual, watal, papar, rithu, ranai, brahmāni, banchor, karun, skioch, sidhera, naga*, P.B.; *Agniun, agnu*, KUMAUN.

A large deciduous shrub, or small or occasionally moderate sized tree of the outer Himalaya, from the Indus to Bhutan, and of the Khásia Hills from 4,000 to 8,000 feet.

Wood white, with a slight yellow tinge, soft, close-grained.

It is used for carving into spoons.

				lbs.
H 3173.	Dungagalli, Hazara, 8,000 feet	.	.	...
H 919.	Hazara, Punjab, 8,000 feet	.	.	36
H 172.	Murree, Punjab (1866), 7,000 feet	.	.	...
H 778.	Kalatop Forest, Punjab, 7,000 feet	.	.	34
H 2897.	} Nagkanda, Simla, 9,000 feet	.	.	44
H 3012.				

**E. nov, sp.**

A climbing shrub found in British Bhutan at 7,500 feet altitude.

Wood white, soft, compact, with extremely small pores, and extremely fine medullary rays.

E 3667. Khumpung, British Bhutan, 7,500 feet.

**E. pendulus, Wall.**Vern.—*Chopra, pincha, garur, kunku*, N.-W. P.

A moderate sized evergreen tree, found in the Himalaya, from the Jhelum to Nepal, between 2,500 and 7,500 feet.

Wood white, moderately hard, compact, with a light-red tinge, very close and even-grained.

				lbs.
H 86.	The Glen, Simla, 6,000 feet	.	.	35
H 2837.	" " " " "	.	.	41

## EUPHORBIA.

471

**Euonymus theaeifolius, Wall.**

Vern.—

A shrub of the Central and Eastern Himalaya, up to 8,000 feet in Sikkim.

Wood of structure similar to the rest, but the medullary rays are somewhat broader and the annual rings more distinct.

E 3308. Rangbúl, Darjeeling, 7,500 feet.

472

**E. tingens, Wall.**

Vern.—*Kungku*, N.-W. P.; *Newar*, *kasúri*, NEPAL; *Chopra*, *mer mahaul*, SIMLA.

A small evergreen tree of the Himalaya, from the Sutlej to Nepal between 6,500 and 10,000 feet.

The structure and appearance of the wood are the same as *Euonymus grandiflorus*, except that the wood of this species has a slightly reddish tinge.

H 32.	Madhan, Simla, 7,000 feet	.	.	.	lbs.
H 2844.	Mahasu, Simla, 8,000 feet	.	.	.	48
H 2881.	Nagkanda, Simla, 8,000 feet	.	.	.	46
		.	.	.	...

## EUPHORBIA.

473

**Euphorbia antiquorum, Linn., EUPHORBIAEÆ.**

Vern.—*Tekata sij*, BENG.; *Tidhara*, HIND.; *Shidu*, MECHI; *Shasoung-pya-thal*, BURM.; *Daluk*, CINGH; *Nara-seja*, BOM.

A bush with three-angled branches and stems, found on the arid hills above Coimbatore, and on the lower dry slopes of the Himalaya from Kashmir eastward.

474

**E. Cattimandoo, Elliot.**

Vern.—*Katti mandu*, TEL.

A small tree with five-angled stems.

475

**E. neriifolia, Linn.**

Syn.—*E. LIGULARIA*, Roxb.

Vern.—*Mausa sij*, BENG.; *Gangichá*, PB.; *Thor*, BOM.; *Nivadunga*, *minaguta*, SIND.; *Shasoung*, BURM.

A small tree with spirally-twisted five-angled stem, cultivated near villages throughout India, and by the Mechis regarded as sacred.

476

**E. pulcherrima, Willd.**

Syn.—*POINSETTIA PULCHERRIMA*, *Graham*.

Cultivated in gardens on account of its crimson floral leaves, which appear about Christmas.

477

**E. Royleana, Boissier.**

Syn.—*E. PENTAGONA Royle*.

Vern.—*Thor*, PB.; *Sali*, JHELAM; *Chála*, CHENAB; *Chún*, RAVI; *Chú*, *chúnga*, *súrs*, BEAS; *Súro*, *tsui*, SUTLEJ; *Sohánd*, KUMAUN.

A large, milky shrub of the North-Western Himalaya, ascending to 6,000 feet.

Wood spongy. It reaches 15 to 16 feet in height, the stems having 2 to 3, and often even 5 to 6 feet in girth. It is often planted as a hedge, and grows readily from cuttings, even on the driest soil.

P 3075. Sabathu, Punjab.

**Euphorbia Tirucalli, Linn.\***

Vern.—*Lanka-sij*, BENG.; *Sehūd*, HIND.; *Seju*, URIYA; *Tiykalli*, MAL.;  
 • TAM.; *Thora*, SIND.; *Jemudu*, *kalli-chemuda*, *manche*, TEL.; *Shasoring*, *lekuryo*, BURM.

A small tree, with round stems and smooth branches; cultivated as a hedge throughout India.

The wood is white or grey, moderately hard; strong.

It is used for veneering and for toys.

• C 5509. Khurda Forests, Orissa.

**EVODIA**

478

**EURYA.****Eurya acuminata, DC., TERNSTROMIACEÆ.**

Vern.—*Sanujhingni*, NEPAL; *Flotungchong*, LEPCHA.

A small evergreen tree of the hills of the North-Eastern Himalaya, Assam, and Martaban, from 5,000 to 8,000 feet.

Wood differs from that of *E. symplocina* in having the larger medullary rays less broad and less prominent. Weight, 32 to 47 lbs.

E 2320. Rangbúl, Darjeeling, 7,500 feet . . . lbs.  
 . . . 47

**E. japonica, Thun.**

Vern.—*Baunra gontu deura*, HIND.; *Yhingni*, NEPAL; *Tungchong*, LEPCHA; *Hoolooni*, NILGIRIS; *Tounglet pet*, BURM.

A shrub or small tree, found in the Himalaya from the Jumna eastwards, above 3,000 feet in altitude; it is also found in the Western Ghâts, and in Burma.

Wood brown, soft, close-grained.

It is sometimes used for fuel.

E 3723. Kalimpong, Darjeeling, 4,000 feet.

**E. symplocina, Bl.**

Vern.—*Barajhingni*, *kisi*, NEPAL; *Flotungchong*, LEPCHA.

A small evergreen tree of the hills of the North-Eastern Himalaya, from 5,000 to 7,000 feet, and of Burma.

Wood reddish-white, soft, close-grained.

Used only for firewood.

E 385. } Rangbúl, Darjeeling, 7,000 feet . . . lbs.  
 E 2319. } { 35  
 E 3381. Darjeeling, 6,000 feet. . . { 42

**EVODIA.****Evodia fraxinifolia, Hook. f., RULACEÆ.**

Vern.—*Kanukpa*, NEPAL; *Kanú*, LEPCHA.

A small tree of the Eastern Himalaya in Sikkim, between 4,000 and 7,000 feet, and of the Khásia Hills from 3,000 to 5,000 feet.

Wood white, soft; used only for posts of huts.

E 3101. Darjeeling, 7,000 feet . . . lbs.  
 E 3641. The Park, Darjeeling, 6,500 feet. . . 21

482

## EXCÆCARIA.

- 483 **Evodia Roxburghiana, Bth.**  
**Syn.**—*E. TRIPHYLLO, Beddome*; *FAGARA TRIPHYLLO, Roxb.*; *ZANTHOXYLUM TRIPHYLLUM, Thwaites.*  
**Vern.**—*Ubede, lunu, ankenda, CINGH.*  
 A small tree found in the Khásia Hills, South India, and Ceylon, Tenasserim, and the Andaman Islands.  
 Wood greyish-brown, moderately hard.
- 484 **E. triphylla, DC.**  
**Vern.**—  
 A small tree much resembling *E. Roxburghiana*, and inhabiting damp localities in Burma and the Andaman Islands, Japan, China, and Borneo.  
 Wood light, soft, pale-pinkish, close-grained, straight, fibrous, with silvery lustre.  
 B 1979. Andamans.

## EXCÆCARIA.

- 485 **Excæcaria Agallocha, Willd., EUPHORBIACEÆ.**  
**Vern.**—*Gangma, geor, uguru, geria, BENG.*; *Tayan, kayan, BURM.*; *Chilla, TEL.*; *Yekin, BURM., in the ANDAMANS*; *Geva, BOM.*  
 A small evergreen tree of the Coast and tidal forests of India, Burma, and the Andaman Islands.  
 Wood very soft, spongy. Grows occasionally to 5 feet in girth and 40 feet in height, though generally cut for posts when of small girth. It is a useful wood for general carpentry purposes, such as toys, bedsteads, tables, &c.; a white timber; the juice which exudes from the bark when green is very poisonous. *Roxburgh* says it is only used for charcoal and firewood.
- |   |      |
|---|------|
|   | lbs. |
| E 396. Sundarbans . . . . .                             | 24   |
| B 2477. Andaman Islands ( <i>Kurs</i> , 1866) . . . . . | 28   |
| E 3642. Sundarbans . . . . .                            | ...  |
- 486 **E. baccata, Müll. Arg.**  
**Syn.**—*CARUMBUM BACCATUM, Kurs*; *SAPIUM BACCATUM, Roxb.*  
**Vern.**—*Pudlikat, lal kainjal, NEPAL*; *Adamsali, ASS.*; *Billa, SYLHET*; *Linhlán, BURM.*  
 A large evergreen tree of Northern and Eastern Bengal, Chittagong, and Burma.  
 The bark is chewed by natives in Assam.  
 To this species probably belongs E 1062 from Chittagong, a soft grey wood, in structure resembling that of *E. indica*; as well as E 3340 from Assam, called there *Tarsing*, NEPAL; *Selling*, CHUTIA NAGPUR COOLIES; *Larrna*, ASS. Weight, 28 lbs. per cubic foot.
- 487 **E. indica, Mull. Arg.**  
**Syn.**—*SAPIUM INDICUM, Roxb.*  
**Vern.**—*Hárúa, batúl, BENG.*; *Kirri makalu, CINGH.*  
 A small evergreen tree, found in the Sundarbans and the tidal forests of Tenasserim and Ceylon.  
 Wood soft, white, with small brown heartwood; it is used in the Sundarbans for fuel.
- |                              |      |
|------------------------------|------|
|                              | lbs. |
| E. 409. Sundarbans . . . . . | 29   |

**Excæcaria insignis, Müll. Arg.**

Syn.—CARUMBUM INSIGNE, *Kurz*; FALCONERIA INSIGNIS, *Royle*.

Vern.—*Dādla, bilodar, biloja, karālla, ledra*, PB.; *Khinna, khina lienda, lendwa*, HIND.; *Garpa shola*, ANAMALAIS.

A small deciduous tree of the sub-Himalayan tract from the Beas eastwards, ascending to 4,300 feet, of Chittagong, Burma, and Western Ghâts as far north as Násik.

Wood grey, very soft, spongy; it is used for the cylinders of native drums.

	lbs.
H 103. Bhajji, Simla, 4,000 feet . . . . .	29
H 615. Kulu, 5,000 feet . . . . .	23

**E. sebifera, Müll. Arg.**

THE CHINESE TALLOW TREE.

Syn.—CARUMBUM SERIFERUM, *Kurz*; SAPIUM SERIFERUM, *Roxb.*

Vern.—*Moon-china*, BENG. (in *Roxb. Fl. Ind.*)

A small or moderate sized tree, introduced into India, and widely cultivated throughout the Northern districts.

Wood white, moderately hard; when dry it is useful, and is made into toys, bed-steads, tables, &c.

	lbs.
O 3114. Dehra Dun . . . . .	32

**FAGRÆA.****Fagraea fragrans, Roxb., LOGANIACEÆ.**

Vern.—*Anan*, BURM.

An evergreen tree of Burma.

Wood hard, brown, close-grained, beautifully mottled.

It is very durable, and is not liable to the attacks of "Teredo." It is one of the most important of the reserved trees of Burma, especially in Tavoy; and is used for house-building, bridge and wharf piles, boat-anchors and other purposes.

	lbs.
B 289. Burma (1867) . . . . .	53
B 550. Martaban . . . . .	65
B 3073. Burma (1862) . . . . .	57

**F. (?) obovata, Wall.**

Vern.—*Sunakhari*, NEPAL; *Longsoma*, MAGH.; *Nyoungkyap*, BURM.

An evergreen tree, often scandent or stem-clasping, found in the forests of Northern and Eastern Bengal, Chittagong, and Burma.

Wood hard. Weight 56 lbs.

	lbs.
E 1450. Mishmi Hills (1836) . . . . .	56

**F. racemosa, Jack.**

Vern.—*Thit-hpaloo*, BURM.

A moderate sized evergreen tree found in the Andaman Islands.

Wood moderately hard, greasy to the touch and with a scent like that of India-rubber. Weight 50 lbs. per cubic foot.

Major Ford says it is strong and durable, and that the wood is used for house-posts.

	lb.
B 1990. Andamans ( <i>Kurz</i> , 1866) . . . . .	52
B 2294. „ ( <i>Ford</i> , 1866) . . . . .	48

**FAGRÆA.**

488

489

490

491

492



## FICUS.

## FERONIA.

493 *Feronia Elephantum*, Correa, RUTACEÆ.

## THE WOOD-APPLE.

**Vern.**—*Bilin*, *ke.it*, *kat-bél*, HIND.; *Kath-bel*, BENG.; *Vallanga*, *velá*, *kavít*, TAM.; *Vellam*, MADURA; *Velagd*, *elaka*, *yellanga*, TEL.; *Bilwar*, KAN.; *Kargat*, MAR.; *Hman*, BURM.

A large tree found in the sub-Himalayan forests from the Ravi eastward, in Bengal, South India, and the Chanda district of the Central Provinces.

Wood yellowish-white, hard. Annual rings distinctly marked by a white line. Weight about 50 lbs. per cubic foot.

It is used for house-building, naves of wheels, oil-crushers and agricultural implements. It yields a clear yellow gum, soluble in water; said to have been sent from Madras to the Punjab Exhibition. Ainslie says that it is also used by dyers and painters, particularly miniature and chintz painters. It is also employed in making ink and varnish, and by brick-layers in preparing certain cements and plasters. It occurs in irregular tears, semi-transparent or brownish. The *Pharmacopœia of India* pronounces it as superior to gum-arabic for medicinal purposes.

E 2487. Calcutta.

## FICUS.

494 *Ficus bengalensis*, Linn., URTICACEÆ.

## THE BANYAN TREE.

**Syn.**—F. INDICA, Roxb.

**Vern.**—*Bor*, *bar*, *ber*, *bargat*, HIND.; *Bur*, *but*, BENG.; *Boru*, URIYA; *Borhar*, NEPAL; *Kangji*, LEPCHA; *Vanket*, GARO; *Bot*, ASS.; *Barelli*, GOND.; *Wóra*, KURKU; *Ala*, TAM.; *Mari*, *peddi-mari*, TEL.; *Ahlada*, *aladamara*, *ala*, KAN.; *Bor*, MAL. (CHUTIA NAGPUR); *Peralu*, MAL.; *War*, *vada*, MAR.; *Maharenga*, CINGH.; *'Pyee-nyoung*, BURM.; *Bai*, KOL.

A large tree, wild in the East Himalayan tracts, planted throughout India.

It is one of the most characteristic of Indian trees, in many cases each forming a forest in itself from its habit of sending down roots from the branches. The well-known tree in the Botanic Gardens, Calcutta, which was ascertained by Falconer to have grown in 1782 from a seed deposited in the crown of a date palm, and which is consequently now 98 years old, measured when examined by Falconer in 1834, Hooker in 1847, and Balfour in 1863, 300 feet in diameter of spread and 80 feet in height. It has since suffered severely in the cyclones of 1864 and 1867.

Wood grey, moderately hard; no heartwood. Weight about 37 lbs.

It is of little value, but is durable under water, and therefore used for well curbs. It is sometimes used for boxes and door panels. The wood of the drops is stronger and is used for tent poles, cart-yokes and banghy poles.

	lbs.
C 1150. Ahiri Reserve, Central Provinces . . .	38
C 836. Bairagarh Reserve, Berar . . .	39
C 2813. Melghát, Berar . . .	...

## FICUS.

**Ficus comosa, Roxb.**

495

Syn.—F. BENJAMINA, Linn., var. COMOSA, KURS.

Vern.—Kabra, NEPAL; Kunhip, LEPCHA; Furi pakri, ASS.; Putra-juvi, TEL.; Sunonijar, SONTAL; Jili, MAL. (CHUTIA NAGPUR.)

A moderate sized, evergreen, often epiphytic tree, found in Bengal, Burma, the mountains of the eastern side of the Peninsula, and Tinnevely.

Wood grey, beautifully mottled, moderately hard. Weight, 34 lbs. per cubic foot.

E. 588. Bamunpokri, Darjeeling

lbs.

34

**F. cordifolia, Roxb.**

496

Syn.—F. RUMPHII, KURS.

Vern.—Rumbal, paluk, badha, pilkhan, PB.; Kabar, gajun, gajna, pipal, gajjaira, pakar, khabar, HIND.; Ganjar, suman, pipar, LOHARDUGGA; Kabai pipal, KUMAUN; Gai aswat, BENG.; Pakar, NEPAL; Pakri, ASS.; Sab-bur, CACHAR; Prab, GARO; Parus pipal, AJMERE; Pair, MAR.; Nyongpyoo, BURM.

A large deciduous tree of the outer Himalaya, from the Chenab eastwards, ascending to 5,000 feet, of Bengal, Central India, and Burma.

It is generally epiphytic and is then very destructive to timber trees. Wood very soft, spongy. Weight 27 lbs. per cubic foot.

The wood is used in Cachar for charcoal for tea manufacture.

H 605. Chitul Forest, Kangra

lbs.

P 3224. Nagpahar, Ajmere

27

E 586, 20 lbs., sent from the Darjeeling Terai under the name of Niwaro, and E 716 (27 lbs.) sent from Chittagong under those of Hijalya, BENG.; Choupaha, MAGH., resemble this species in structure.

**F. Cunia, Buch.**

497

Vern.—Khewnau, khurhur, kassa, ghwi, HIND.; Kunia, KUMAUN; Kanhya, NEPAL; Kunai, palkai, taikran, MECHI; Sangji, LEPCHA; Dumbur, yajyg-domur, BENG.; Podha, LOHARDUGGA; Riu, ain, KOL; Poro dumer, KHARWAR; Pordoh, SONTAL; Poroh, MAL. (CHUTIA NAGPUR); Jonua, sodoi, MAGH.; Te-kha-ong, BURM.

A moderate sized tree of the sub-Himalayan tract, from the Chenab eastward, ascending to 4,000 feet in altitude, of Bengal and Burma.

Wood rough, moderately hard, greyish-brown. Weight 31 lbs. per cubic foot.

It is not used.

O 1365. Gonda, Oudh

lbs.

E 583. Bamunpokri, Darjeeling Terai

36

E 1953. Chittagong

36

E 3718. R. B. Gardens, Calcutta

22

20

This last has white, soft wood, and is named, *F. conglomerata*, Roxb.

**F. elastica, Bl.**

498

THE INDIA-RUBBER TREE. See CAOUTCHOUC.

Vern.—Bar, attah bar, BENG., ASS.; Kagiri, kasmir, KHASIA; Yohi, LEPCHA; Rauket, GARO; Lesu, NEPAL.

A large evergreen tree, usually epiphytic, throwing down numerous aerial roots from the branches, found in the North-Eastern Himalayas, eastward to Assam and Arracan. Government has a large plantation of it in Assam.

## FICUS.

Wood white or light-brown. Weight 43 lbs. per cubic foot.  
It is not used.

E. 2449. Chawa Jhora, Sivoke, Darjeeling . . . lbs.  
43

499 *Ficus foveolata*, Wall.

Vern.—*Grelu*, SMLA; *Makreru*, KUNAWAR; *Dudita*, NEPAL; *Taksot*, LEPCHA.

An evergreen scandent shrub found in the Himalaya, from the Sutlej to Bhutan, and in the Khásia Hills.

Wood light-brown, soft, very porous. Weight 38 lbs. per cubic foot.

H. 2833. The Glen, Simla, 6,000 feet . . . lbs.  
38

500 *F. glomerata*, Roxb.

Vern.—*Kathgular*, *krumbal*, *kakammal*, *dadhuri*, PB.; *Gular*, *paroa*, *leka*, *umar*, *umrdi*, *tue*, HIND.; *Dumri*, NEPAL; *Tchongtay*, LEPCHA; *Jagya dumar*, BENG.; *Lowa*, *lóa*, SONTAL and KOL; *Dumer*, KHARWAR and MAL (CHUTIA NAGPUR); *Dimeri*, URIYA; *Thoja*, GOND; *Alawa*, KURKU; *Atti*, TAM.; *Moydi*, *atti*, *bodda*, *paidi*, *muri*, TEL.; *Kulla-kith*, KAN.; *Umbara*, MAR.; *Atteeka*, CINGH.; *Ye-tha-pan*, BURM.

A large tree of the Salt Range, sub-Himalayan Tract, Bengal, Central and South India, and Burma.

Wood grey, soft, mottled on a longitudinal section. Weight 25 to 30 lbs.

It is not durable, though it lasts well under water, and is consequently used for well-frames.

C 1138. Ahiri Reserve, Central Provinces . . . lbs.  
C 839. Bairagarh Reserve, Berar . . . ---  
C 2796. Melghát, Berar . . . 25  
E 643. Bamunpokri, Darjeeling Terai . . . ---  
25

501 *F. hispida*, Linn.

Syn.—*F. OPPOSITIFOLIA*, Roxb. (*Fl. Ind.*, iii, 561); *F. DEMONA*, König, (*Roxb.*, l.c., 562.)

Vern.—*Daduri*, *degar*, *rumbal*, PB.; *Kagsha*, *gohla*, *totmila*, *kat gularia*, *konea-dumbar*, HIND.; *Dhedu mera*, PANCH MEHALS; *Kharwa*, NEPAL; *Taksot*, LEPCHA; *Dumar*, *kako-dumar*, BENG.; *Sita pardoh*, SONTAL; *Kotang*, *sosokera*, KOL.; *Bhudoi*, MAL (CHUTIA NAGPUR); *Poksha*, MECHI.; *Khoskadumar*, ASS.; *Shakab*, GARO; *Boda-mamadi*, *bummarri*, *bamari*, TEL.; *Katumer*, *bomair*, GOND.; *Koreh*, KURKU; *Mainulok*, MAGH; *Kadot*, BURM.

A moderate sized tree of the outer Himalaya from the Chenab eastward, ascending to 3,500 feet, of Bengal, Central and South India, Burma, and the Andaman Islands.

Wood soft, dirty grey, no heartwood, no annual rings. Weight 25 to 35 lbs.

C 1180. Ahiri Reserve, Central Provinces . . . lbs.  
C 2803. Melghát, Berar . . . ---  
E 2450. Bamunpokri, Darjeeling Terai . . . ---  
35

502 *F. infectoria*, Willd.

Syn.—*F. VENOSA*, Ham.

Vern.—*War*, *batbar*, *jangli pipli*, *palakh*, *trimbal*, PB.; *Pilkhan*, *kahim*, *mal*, *ramanjir*, *pakhar*, *pakri*, *keol*, *kaim*, *khabar*, HIND.; *Pdkar*, BENG.; *Safed kabra*, NEPAL; *Kangji*, LEPCHA.; *Prab*, GARO; *Serilli*, GOND; *Pepeve*, KURKU; *Jovi*, *kall-alun*, TAM.; *Sewi*, *yuri*, TEL.; *Tsjakela*, MAL.; *Bassari*, TEL.; *Kari*, *basri*, *bassari*, KAN.; *Baswesa*, KOL.; *Nyongchin*, BURM.

A large tree found in the Suliman and Salt Ranges, the outer Hima-

laya ascending to 5,000 feet, Bengal, Burma, Central India, Western Coast, and Ceylon.

Wood grey, moderately hard. Weight about 35 lbs.

It is common in the forests; but the wood is not durable. It is used in Assam and Cachar to make charcoal.

P 911.	Salt Range	lbs.
C 1166.	Ahiri Reserve, Central Provinces	31
C 838.	Bairagarh Reserve, Berar	37
C 2808.	Melghát, Berar	34
		...

### **Ficus nemoralis, Wall.**

Vern.—

A moderate sized tree of the outer Himalaya from the Jhelum to Sikkim, ascending to 7,000 feet.

Wood white, moderately hard, close-grained. Weight 38 lbs. per cubic foot.

H 3080.	Gowai, Simla, 6,000 feet	lbs.
		38

### **F. regia, Miq.**

Vern.—*Neuverra*, NEPAL.

An evergreen tree found in the North-East Himalaya and Burma.

Wood soft, spongy. Weight 29 lbs.

E 689.	Sepoydura Forest, Darjeeling, 5,500 feet	lbs.
		29

### **F. religiosa, Linn.**

THE PEEPUL.

Vern.—*Pipal*, HIND.; *Ashathwa*, *aswat*, *ushu*, BENG.; *Pipli*, NEPAL; *Borbur*, CACHAR; *Arasa*, TAM.; *Rai*, *raiga*, *rugi*, *ravi*, TEL.; *Ali*, GOND; *Pipri*, KURKU; *Rangi*, *basri*, KAN.; *Hesar*, KOL.; *Jari*, URIYA; *Bo*, CINGH.; *Nyounghandi*, BURM.

A large tree usually epiphytic.

Regarded, as sacred, found all over India, and commonly planted along roadsides.

Wood greyish white, moderately hard. Weight 30 to 45 lbs.

It is used for fuel, for packing cases, and in Cachar for charcoal.

P 893.	Multán	lbs.
O 533.	Dehra Dùn	45
O 538.	" "	31
O 543.	" "	31
C 1168.	Ahiri Reserve, Central Provinces	23
C 837.	Bairagarh Reserve, Central Provinces	44
C 2814.	Melghát, Berar	34
		...

### **F. retusa, Linn.**

Syn.—*F. nitida*, Thunb.; *F. benamina*, Willd.

Vern.—*Kamrup*, *sir*, BENG.; *Yamu*, NEPAL; *Sitnyok*, LEPCHA; *Yerra juvi*, TEL.; *Pilála*, KAN.; *Nyounghop*, *nyounghabyeh*, BURM.; *Jili*, MAL. (CHUTRA NAGPUR); *Butisa*, KOL.

A large evergreen tree, often epiphytic, of Kumaun, Bengal, South India, Burma, and the Andaman Islands.

Wood light-reddish-grey, close-grained, moderately hard, beautifully mottled. Weight 40 lbs. per cubic foot.

FIGUS.

503

504

505

506

## FILICIUM.

It is used for fuel, but as it is very prettily grained it might be found valuable for tables, door panels and other purposes.

E 404. Sundarbans	lbs.
B 2278. Andaman Islands	40
No. 45. Ceylon Collection ( <i>Ficus</i> , sp., <i>Kiripelle</i> , CINGH.)	42

507 *Ficus Roxburghii*, Wall.

Syn.—*F. MACROPHYLLA*, Roxb.

Vern.—*Urbúl, urmál, barbaru, túsi, trimbal, trimal, tirmal, tirmi, tiamle*, PB.; *Trimmal, timal, timla*, HIND.; *Kasrekan*, NEPAL; *Kundoung*, LEPCHA; *Demúr*, BENG.; *Kotang*, KOL.; *Sapai*, MAGH; *Sin-tha-hpan*, BURM.

A moderate sized tree of the outer Himalaya from the Indus eastward, ascending to 6,000 feet, Sylhet, Chittagong, and Burma.

Wood reddish-grey, moderately hard. Weight 34 lbs.

H 606. Chital Forest, Kangra . . . . . lbs.

P 149 from Sainj, near Simla, 4,000 feet, Vern. *Dudela* (*Ficus glomerata*) resembles this species most. Weight 34 lbs.

508 *F. tomentosa*, Willd.

Vern.—*Petta mari*, TEL.

A large tree, a native of mountainous tracts, found in Banda, Behar, Central and Southern India, generally epiphytic.

Wood white or moderately hard. Roxburgh says it is very light, and of little or no-use even for fuel.

E 3646. Daltonganj, Palamow . . . . . 41

*F. Tsiela*, Roxb.

Vern.—*Jovi* or *peddi-jóvi*, TEL.

This, Roxburgh remarks, is, next to *F. religiosa*, the largest species of Indian fig. It is a large handsome tree, with smooth bark, wholly glabrous. It is a native of the lower hills of Bengal and South India, but in cultivation for shade is met with along the roads throughout India.

509 *F. virgata*, Roxb.

Syn.—*F. CARICOIDES*, Roxb.

Vern.—*Anjir, insar*, AFG.; *Fagu, fagóra, dudhi, dhura, phedu, kak, daholia*, HILLS; *Fagwara, thapur* (PLAINS), PB.; *Gúlar, khabára, anjiri, beru, bedu*, HIND.

A moderate sized or large tree found in the Suliman and Salt Ranges, and in the outer Himalaya eastward to Nepal, ascending to 6,000 feet.

Wood white, close and even-grained, moderately hard. Weight 39 lbs. per cubic foot.

P 910. Salt Range	lbs.
H 607. Chitul Forest, Kangra	41
H 156. Bhajji, Simla, 3,000 feet	38
H 148. Sainj, Simla, 3,000 feet.	39

## FILICIUM.

510 *Filicium decipiens*, Thwaites, BURSERACEÆ,

Vern.—*Katu pueras*, TAM.; *Pehimbia*, CINGH.

A tree with elegant fern-like leaves, found in the Western Ghâts up to 4,500 feet, and in Ceylon.

Heartwood red, moderately hard. Pores small, in groups or short radial lines. Medullary rays, fine, numerous, at unequal distances. Weight 68 lbs. per cubic foot (*A. Mendis*).

The wood is strong and valuable for building.

No. 70. Ceylon Collection . . . . . lbs.  
68

FLEMINGIA.

## FLACOURTIA.

*Flacourtia Ramontchi*, *L'Herit.*, BIXINÆ.

Syn.—*F. SAPINDA*, *Roxb.*

Vern.—*Kúkai*, *kakoa*, *kangú*, *kandel*, *Pé*; *Bilangra*, *bhanber*, *kanjú*, *handi*, *kattár*, *katti*, HIND.; *Kaikun*, *MHAIRWARA*; *Kánk*, *kánki*, *biláti*, C. P.; *Arma-suri*, *katien*, GOND; *Gurgoti*, *KURKU*; *Bincha*, *katá*, BENG.; *Serali*, *merlo*, *KOL.*; *Katáil*, *PALAMOW*; *Bonicha*, *baili*, *bainpho*, *URIYA*; *Pahar*, *bhekal*, *kakei*, *kaker*, *MAR.*; *Bhutankas*, *HYDERABAD*; *Kanregu*, *pedda-kanru*, *kaka*, *nakka-naregu*, *TEL.*; *Ugúrassa*, *CINGH.*; *Na-yuwai*, *BURM*

A small thorny deciduous tree met with in dry hills throughout India and the Promé District in Burma.

Wood red, hard, close and even-grained, splits, but does not warp, and is durable. Weight about 53 lbs.

The wood is used for turning and agricultural implements, and the fruit and leaves are eaten.

P 460.	Ajmere . . . . .	lbs.
P 3221.	Nagpahar, Ajmere . . . . .	52
O 260.	Garhwal (1868) . . . . .	...
C 2739.	Moharli Reserve, Central Provinces . . . . .	50
B 3125.	Burma (1862) . . . . .	52
C 3453.	Saidope Reserves, Palamow, Chutia Nagpur . . . . .	59
C 3488.	Kolhán Forests, Singbhum, Chutia Nagpur . . . . .	...

## FLEMINGIA.

*Flemingia congesta*, *Roxb.*, LIGUMINOSÆ.

Vern.—*Bara-salpan* (as in *Rob.*) *Bhalia* (as in *Gamble*), BENG. and HIND.; *Batwasi*, NEPAL; *Mipitmúk*, LEFCHA; *Dangshu kop*, MECHI; *Dowdowlá*, BOM.; *Roxburgh* also gives for var. *nana* the vernacular names of *Supta*, *rusunt*, HIND.

An erect, woody shrub, common in the thickets and forests of the warmer parts of India.

The *Flora of British India* reduces to this species the following forms described by *Roxburgh* as distinct (see *Ed. C. B. C.*, pp. 571-72):—

*F. procumbens*, *F. prostrata*, *F. nana*, *F. congesta* and *F. semialata*, forming four varieties:—

Var. 1.—*semialata*—Central Himalaya, ascending to altitude 5,000 feet.

Var. 2.—*latifolia*—Khásia Hills, altitude 2,000 to 3,000 feet.

Var. 3.—*Wightiana*—Nilgris, Bhutan, Ava.

Var. 4.—*nana*—Central and Eastern Himalaya and the Konkan. Wood white.

E. 3279. Dainah Forest, Western Dúars.

511

512

## GARCINIA.

## FRAXINUS.

513 *Fraxinus floribunda*, Wall., OLEACEÆ.

Vern.—*Banārish*, Afg.; *Sām*, *sānnū*, *shūn*, *hūm*, *hamer*, *tūnnū*, PB.; *Angau*, *angu*, *dakkūri*, N. W. P.; *Kangu*, *tahūsi*, NEPAL.

A large, deciduous trees found in the Himalaya, from the Indus to Sikkim, between 5,000 and 8,500 feet.

Wood white, with a light-red tinge, no heartwood, soft to moderately hard. Weight 48 lbs. per cubic foot.

It is rough and hard, and is used for oars, jampan poles, ploughs, and other purposes.

		lbs.
H 612.	Parbati Valley, Kulu, 7,000 feet	47
H 904.	Upper Chenab, 8,000 feet	...
H 2971.	Naini Tal	49
H 3190.	Dungagalli, Hazara, 7,000 feet	...

The structure is exceedingly similar to that of *F. excelsior*, the European Ash (No. 2974), but that species has a distinct brown heartwood.

**Fuel**—A list of some of the best woods in use for. See APPENDIX.

**Furniture**—Woods suitable for. See APPENDIX.

## GARCINIA.

514 *Garcinia Cambogia*, Desrouss., GUTTIFERÆ.

Vern.—*Aradal*, *manthulli*, KAN.; *Heela*, BURGHERS (NILGIRI HILLS).

A small evergreen tree of the West Coast and Ceylon.

Wood grey, cross-grained, shining, hard. Weight 54 lbs. per cubic foot.

Beddome says it would answer for common furniture.

		lbs.
W 845.	South Kanara	54

515 *G. cornea*, Linn.

Met with in East Bengal and Burma.

Wood brown and heavy. (*Kurb.*)

(*Specimens wanted.*)

516 *G. Cowa*, Roxb.

Syn.—*G. KYDIA*, Roxb.

Vern.—*Cowa*, HIND.; *Toungthalay*, BURM.

A tall evergreen tree of Eastern Bengal, Assam, Chittagong, Burma, and the Andaman Islands.

Wood greyish-white, moderately hard. Weight 37 to 47 lbs. It is not used.

		lbs.
B 549.	Martaban	43
B3 148.	Burma (1862)	37

517 *G. eugeniaefolia*, Wall.

A small tree of the Eastern Peninsula, Singapore, Malacca. (*Griffith.*)

(*Specimens wanted.*)

**Garcinia heterandra, Wall.**Vern.—*Thanat-tau*, BURM.An evergreen tree of the hills of Burma up to 3,000 or 4,000 feet.  
Wood white, soft.

(Specimens wanted.)

**G. indica, Choisy.**Syn.—*G. PURPUREA*, Roxb. (*Fl. Ind.*, ii, 624.)Vern.—*Brindall*, GOA.

A slender tree with drooping branches, found on the ghâts of Kokcan and Kanara.

(Specimens wanted.)

**G. lonirceoides, T. And.**Syn.—*G. SUCCIFOLIA*, Kura.

A small or moderately sized evergreen tree, frequently met with in swamp forests in Pegu.

Wood white, turning yellowish, rather heavy, coarsely fibrous, very perishable.

(Specimens wanted.)

**G. Mangostana, Linn., GUTTIFERÆ.**

THE MANGOSTEEN.

Vern.—*Mangkob*, *Youngsalai*, BURM.

An evergreen tree, a native of the Straits; cultivated in British Burma on account of its fruit.

(Specimens wanted.)

**G. Morella, Desrouss.**

THE GAMBOGE TREE.

Syn.—*G. PICTORIA*, Bedd., the form met with on the Malabar and Canara, Mysore and the Western Coast.Vern.—*Aradal*, *punar puli*, *kankutake*, KAN.; *Gokatú*, *kana-goraka*, CINGH. (The gum resin); *Gota gamba*, HIND.; *Makki*, TAM.; *Revachinni*, MAR.; *Sanatosi*, BURM.; *Gokatu*, CINGH.

An evergreen tree of the Khásia Hills, East Bengal, and the west coast of Ceylon.

Wood yellow, hard, mottled. Weight about 56 lbs.

The wood might be useful for cabinet-making, but the tree is chiefly valued for its gamboge.

No. 14. Ceylon Collection (marked <i>Gambogia Gutta</i> ,	lbs.
Vern. <i>Cocatiye</i> )	56

**G. speciosa, Wall.**Vern.—*Palawa*, BURM.

An evergreen tree of Tenasserim and the Andaman Islands.

Heartwood red, very hard, cross and close-grained. Weight said to range from 45½ to 72 lbs.

The wood is used for house and bridge posts, and other purposes; said to be used by the Andamanese to make bows. Kurz says it is of equally good quality with the "bullet-wood" of the Andamans.

B 504. Andaman Islands	lbs.
B 2492. „ „ (Home, 1874, No. 18)	52
	52

GARCINIA

518

519

520

521

522

523



## GARDENIA.

- 524 **Garcinia stipulata, T. And.**  
 Vern.—*Sana-kadan*, LEPCHA.  
 Met with in Sikkim and Bhutan up to 4,000 feet.  
*(Specimens wanted.)*
- 525 **G. travancorica, Beddome.**  
 Vern.—*Malampongu*, TINNEVELLY.  
 Met with in the forests of Travancore and Tinnevely.  
*(Specimens wanted.)*
- 526 **G. Wightii, T. And.**  
 Found in South India.  
*(Specimens wanted.)*
- 527 **G. Xanthochymus, Hook. f.**  
 Syn.—XANTHOCHYMUS PICTORIUS, Roxb.  
 Vern.—*Tepor*, ASS.; *Dampel*, HIND.; *Mataw*, BURM.  
 Found in East Himalaya, East Bengal, Burma and South India.  
*(Specimens wanted.)*
- GARDENIA.**
- 528 **Gardenia costata, Roxb., RUBIACEÆ.**  
 Syn.—G. CORONARIA, Ham.  
 Vern.—*Yengkhat, tsaythambyah*, BURM.  
 A small deciduous tree of Chittagong and Burma.  
 Wood light-brown, hard, close-grained. Weight 51 lbs. per cubic foot.  
 Used for making combs and for turning, but liable to crack.
- |         |              |   |   |   |   |      |
|---------|--------------|---|---|---|---|------|
| B 284.  | Burma (1867) | . | . | . | . | lbs. |
| B 2540. | „ (1862)     | . | . | . | . | 50   |
|         |              |   |   |   |   | 52   |
- 529 **G. gummifera, Linn.**  
 Vern.—*Dékamali, kamarri*, HIND., GUZ.; *Chitta matta, chiltmityal, gaggaru*, TEL.; *Bururi, burii*, KOL.; *B. uru*, BHUMIJ; *Chitta, bikke, kambi*, KAN.  
 A large shrub of Central and South India.  
 Wood yellowish-white, hard, close-grained.  
 Might serve as a substitute for boxwood.  
 C 3465. Bandgaon, Singbhum, Chutia Nagpur.
- 530 **G. latifolia, Aiton, Roxb.**  
 Vern.—*Pápra, páphar, pepero, ban pindálu*, HIND.; *Pannia bhil, gúngat, bhandara, geggar*, GOND.; *Phiphar, mali*, BAIGAS.; *Kumbay*, TAM.; *Papra papadar, popra*, KHARWAR; *Popro*, SONTHAL; *Pempri*, MAL. (CHUTIA NAGPUR); *Pedda karinga, pureea, bikki, gaiger*, TEL.; *Kotara, uria*, URIYA; *Ghogar, gogarli*, MAR.; *Gogar*, BHIL.  
 A small deciduous tree, found in the sub-Himalayan tract from the Jumna eastwards, in Bengal, Central and South India.  
 Wood light-yellowish-brown, close and even-grained, hard, handsomely mottled, neither warps nor splits. No heartwood. Weight 50 to 53 lbs. per cubic foot.  
 The wood is easy to work, durable, and is recommended to be tried as a substitute for boxwood; it is likely to be very good for engraving and turning. Combs are made of it.
- |         |                                    |   |   |      |
|---------|------------------------------------|---|---|------|
|         |                                    |   |   | lbs. |
| B 1173. | Ahiri Reserve, Central Provinces   | . | . | 53   |
| B 2733. | Moharli Reserve, Central Provinces | . | . | 50   |

**Gardenia lucida, Roxb.**Syn.—*G. RESINIFERA*, Roth.Vern.—*Dikmāli*, HIND., GUZ.; *Konda manga*, *kokkita*, *tetta manga*, C.P.; *Papar*, BIJERAGOGARH; *Karinga*, *karaingi*, *tella-manga*, TEL.; *Kumbi*, TAM.

A small deciduous tree, found in Central and South India, and Chittagong.

Wood yellowish-white, close-grained, hard, no heartwood, no annual rings. Weight 39 lbs. per cubic foot.

It is useful for turning; it is made into combs. lbs.

C 1185 Ahiri Reserve, Central Provinces . . . 39

**G. obtusifolia, Roxb.**Vern.—*Yengkhat*, BURM.

A small deciduous tree of Burma.

Wood white, moderately hard, even-grained. Weight 55 lbs. per cubic foot. lbs.

B 817. Rangoon Division, Burma . . . 55

**G. turgida, Roxb.**Vern.—*Thanella*, *khúrrúr*, *khuriari*, *ghúrga*, *mhaner*, HIND.; *Duri*, LOHARDUGGA; *Duduri*, KOL.; *Dumki*, *doudouki*, SONTHAL; *Kharkar*, ORAON and MAL. (CHUTIA NAGPUR); *Karkar*, BANDA; *Panjra*, *pendra*, GOND; *Phurpata*, KURKU; *Khurphendá*, *pendri*, *phanda*, *phetra*, MAR.; *Phetrak*, BHIL.; *Bamemia*, *dobelkirat*, URIYA; *Manjunda*, TEL.; *Bongeri*, KAN.; *Thamengsanee*, BURM.

A small deciduous tree of the sub-Himalayan tract from Nepal to the Jumna, ascending to 4,000 feet; of Rajputana, Burma, and Central and South India.

Wood close-grained, hard, white with a purplish tinge, no heartwood; annual rings indistinct. Weight 50 to 60 lbs.

It is good but splits and cracks in seasoning.

O 541.	Dehra Dún . . . . .	lbs.
O 1377.	Gonda, Oudh . . . . .	60
O 1463.	Bahraich, Oudh . . . . .	...
O 1489.	Kheri, Oudh . . . . .	50
C 826.	Bairagarh Reserve, Berar . . . . .	54
C 2779.	Melghát, Berar . . . . .	58
C 1142.	Ahiri Reserve, Central Provinces . . . . .	54
W 993.	North Kanara . . . . .	48

Nos. C 1248 and C 1309 (61 and 63 lbs.) sent from Gumsúr under the name *Gorahadu*, have the same structure as, and probably are, this species.

C 3435. Kumandi Reserve, Palamow.

**GARUGA.****Garuga pinnata, Roxb., BURSERACEÆ.**Vern.—*Kharpat*, *katúla*, *kilmira*, *sarota*, PB.; *Ghogar*, *kaikar*, HIND.; *Gurja*, BANDA; *Kakar*, *kaikra*, *ghunja*, *mahúrut*, C. P.; *Nia jowa*, KOL.; *Kállur*, KHARWAR; *Karúr*, BHUMIJ and SONTHAL; *Gharri*, GOND; *Kosomara*, GHAIWAL; *Kosramba*, MAL (CHUTIA NAGPUR); *Jám*, *kharpat*, *níl bhadi*, BENG.; *Mohi*, URIYA; *Gia*, MECHI; *Dab-dabbi*, NEPAL; *Maldit*, LEFCHA; *Gendeli poma*, ASS.; *Chi-tompa*, GARO; *Mroung-shisha*, MAGH; *Garuga*, *garáá*, TEL.; *Gápní*, *kekra*, GOND; *Kekkida*, KURKU; *Karre vembu*, TAM.; *Kárak*, MAR.; *Chnyok*, BURM.

A large deciduous tree of the sub-Himalaya, Central and South India.

GARUGA

531

532

533

534

**GIVOTIA.**

Sapwood large, heartwood reddish, moderately hard. Weight from 40 to 50 lbs., generally 40 lbs.

The wood is not durable, but it seasons well. It is used occasionally for house-building and for fuel.

		lbs.
O 235.	Garhwal (1868)	39
O 346.	Gorakhpur (1868)	39
C 1107.	Chanda, Central Provinces	39
E 648.	Darjeeling Terai	39
E 1389.	Chittagong	46
B 812.	Burma	39
E 3677.	Darjeeling Terai (1882)	31

**GIGANTOCHLOA.****535 Gigantochloa andamanica, Kurz., GRAMMEE.**

Vern.—*Poddā*, AND.

An evergreen tufted bamboo of the Andamans.

Stems 20 to 30 feet, rather hollow, and small.

Leaves used for thatching. (*Kurz.*)

B 1331. Andamans.

(*Specimens wanted.*)

**536 G. auriculata, Kurz.**

Vern.—*Ta-la-ku-wa*, BURM.

An evergreen arboreous tufted bamboo found in the low forests of Southern Pegu, but rather rare; cultivated in villages of Arracan and Chittagong.

The stems are 30 to 40 feet high and 2 to 4 inches in diameter; very strong. (*Kurz.*)

(*Specimens wanted.*)

**537 G. macrostachya, Kurz.**

Vern.—*Madi*, MAGH.; *Wa-net*, BURM.

An evergreen arboreous tufted bamboo, not unfrequent in the tropical forests of Martaban and Tenasserim; also cultivated in villages of the Irrawadi Valley, and of Arracan.

Stems 30 to 50 feet high, 3 or 4 inches in diameter, amply hollow, walls  $\frac{1}{4}$  inch thick. (*Kurz.*)

B 1314. Toungoo.

(*Specimens wanted.*)

**GIVOTIA.****✓ 538 Givotia rottleriformis, Griff., EUPHORBIACEÆ.**

Vern.—*Vendālē*, *butalli*, *bulali*, TAM.; *Tella pūnki*, TEL.

A middle sized tree of the Dekkan, Mysore, Eastern Ghâts, and Ceylon.

Wood white, exceedingly light, very soft, but even-grained. Weight 14 lbs. per cubic foot.

It is used to carve figures, for toys, imitation fruit, and other fancy articles, which are lacquered and painted; also for catamarans.

	lbs.
D 3152. Cuddapah, Madras	14

## GMELINA.

## GLUTA.

**Gluta elegans, Wall., ANACARDIACEÆ.**Vern.—*Thayet-thitsay*, BURM.

A small evergreen tree found along the coast of Tenasserim. Kurz in his *Burmese Flora*, I, p. 310, remarks of this plant: "Wood good for furniture, and when steeped in ferruginous mud turns jet black, looking like ebony. "It is used for building purposes, boxes, &c."

**G. Tavoyana, Wall. (SYNDESMIS.)**Vern.—*Thayet, thitsay*, BURM.; *Ohay, thoomay*, KAREN.

A small tree with white branches; met with at Tavoy. Heartwood bright-dark-red, close-grained, not so mottled with dark and light streaks as *G. travancorica*. The wood floats when seasoned, and is very durable, but brittle.

B 3701. Tenasserim (*Mr. Hill*, 7-'82) . . . lbs.  
52

**G. travancorica, Beddome.**Vern.—*Shencurungi*, TINNEVELLY.

A very large evergreen tree of the Ghâts of Tinnevely and Travancore.

Sapwood light-reddish-grey; heartwood dark-red, very hard and close-grained, beautifully mottled with dark and light streaks. Weight 40 to 58 lbs.

The wood is little used, but its splendid colour and markings should rapidly bring it to notice as a valuable wood for furniture. It seems to season very well, and works and polishes admirably.

D 1066. Tinnevely (some sapwood) . . . lbs.  
D 3155. „ (heartwood only) . . . 46  
58

## GLYCOSMIS.

**Glycosmis pentaphylla, Correa, RUTACEÆ.**Vern.—*Ban nimbre, potali pulru potala, gurgitti*, HIND.; *Kirmira*, BOM.; *Tanshouk*, BURM.

A common evergreen shrub of the tropical and sub-tropical Himalaya up to 7,000 feet in Sikkim; ranging from the Sutlej river in the North-West southwards to Upper Assam; Travancore, Malacca and Ceylon.

Wood white, hard, close-grained.

E 3284. Chittagong.

## GMELINA.

**Gmelina arborea, Roxb., VERBENACEÆ.**

Vern.—*Gumhár, khamara, kambhar, kúmar, gambari, sewan, shewan*, HIND.; *Gúmár, gúmbar*, BENG.; *Gambari*, NEPAL, URIYA.; *Gomari*, ASS.; *Numbor*, LEPCHA; *Gumai*, CACHAR; *Bolkobuk*, GARO; *Gumadi, cummi*, 'TAM.; *Gúmar-tek, peddagomru, tagumáda, gumudu*, TEL.; *Shewney, kuli*, KAN.; *Shewan*, MAR.; *Chimman sag*, BHILK.; *Kumbulu*, MAL.; *Kurse, gond*, KASSAMAR, KURKU; *Kasamar*, KOL and SONTHAL; *Gamhari*, MAL (CHUTIA NAGPUR) *At-demmata*, CINGH.; *Raman, MAGH.*; *Yamaney*, BURM.

A moderate sized or large deciduous tree met with in the sub-Hima-

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## GNETUM.

layan tract from the Chenab eastwards and throughout India, Burma, and the Andaman Islands.

Wood yellowish, greyish or reddish-white with a glossy lustre, close and even-grained, soft, light and strong, durable, does not warp or crack. Annual rings marked either by a white line or by more numerous pores in the spring wood. Weight 30 to 40 lbs. per cubic foot.

The wood is easily worked and readily takes paint or varnish; it is very durable under water. It is highly esteemed for planking, furniture, domestic utensils, door panels, carriages and palanquins, well-work, boats, toys, packing cases, and all ornamental work; it is used in Burma for carving images, clogs, and canoes. It would probably be a valuable wood for tea-boxes. It is the chief furniture wood of Chittagong, and is in some demand in Calcutta. Writing in May 1829, in *Gleanings in Science* Captain Baker the Superintendent of Suspension Chain Bridges, spoke of *Gumbhar* wood as "well calculated for light planking, paneling, blinds and venetians, and of much estimation for picture frames, organ pipes, sounding boards, and other such work where shrinkage is to be avoided," so that it has evidently been long known in the Calcutta market.

		lbs.
O 325.	Garhwal (1868)	33
O 343.	Gorakhpur (1868)	32
O 1372.	Gonda (Oudh)	40
O 1457.	Bahraich, Oudh	38
O 1483.	Kheri, Oudh	39
C 182.	Mandla, Central Provinces (1870)	35
C 1129.	Ahiri Reserve, Central Provinces	...
C 835.	Bairagarh Reserve, Berar	45
C 2775.	Melghát, Berar	38
C 959.	Guzerat, Bombay	34
C 3549.	Khurda Forests, Orissa	37
E 676.	Bamunpokri, Darjeeling Terai	41
E 2396.	Sivoke Forest, "	35
E 948.	Eastern Dúars, Assam	36
E 2193.	Nowgong, Assam	39
E 2303.	Kámúp, "	37
E 1435.	Assam	31
E 1390.	Chittagong	33
E 3605.		
E 3620.	Darjeeling Terai.	
B 295.	Burma (1867)	28
B 1425.	Tharrawaddy, Burma	35
E 3693.	Chittagong Hill Tracts.	

## GNETUM.

544

**Gnetum scandens, Roxb., GNETACEÆ.**

Vern.—*Wanuwiti*, SYLHET; *Kúmbal*, *umbli*, BOM.; *Gyootuway*, BURM.

A stout scandent shrub, native of the hilly parts of Chittagong and the eastern parts of Bengal, as well as Malabar and the Moluccas; met with also in the Sikkim hills at 4,000 feet altitude.

Wood dark-brown, soft, arranged in concentric rings, separated by a band of cellular pith-like tissue, which runs star-ray-like into the bands from the inner edge and so divides them up into wedge-shaped sections. Pores large, medullary rays none, cells distinctly visible under the lens.

E 3727. Rungbi, Darjeeling, 4,000 feet.

## GREWIA.

## GOSSYPIUM.

**Gossypium arboreum, L., MALVACEÆ.**

Vern.—*Nurma barre, nurmah*, HIND.; *Stem paratie*, TAM.; *Deo karpas*, MYSORE; *Kapas*, PB.

A shrub or low tree, rarely a herb, met with in the plains of India in gardens, but not generally cultivated.

(Specimens of this plant, including the wood, are wanted.)

**G. Stocksii, Mast.**

STOCK'S COTTON TREE.

Vern.—

A straggling shrub of the lime-stone rocks on coasts of Sind.  
(Specimens wanted.)

## GREVILLEA.

**Grevillea robusta, Kunz., PROTEACEÆ.**

THE SILK OAK.

Vern.—

A native of Australia; grows well in India; a fine avenue may be seen in the Calcutta Botanic Gardens running toward the great Banyan tree.

Wood hard, light-reddish-brown, sapwood greyish-white. The heartwood seems durable, but the sapwood decays quickly.

It would be a handsome furniture wood.

O 3263. Saharanpur.

E 3717. R. B. Gardens, Calcutta . . . . . lbs. 36

## GREWIA.

**Grewia asiatica, Linn., MALVACEÆ.**

Vern.—*Phalsa, pharoah*, HIND., SIND., PB.; *Philase*, BOM.; *Shukri*, BENG.; *Phutiki* or *Putiki*, TEL.; *Dhamru*, AJMERE.

A small, hazel-like tree cultivated throughout India, said to be indigenous in the Salt Range, Poona, Oudh and Ceylon.

Wood yellowish-white, structure similar to that of *G. vestita*.

P 470. Ajmere.

P 3218. Nagpohar, Ajmere.

P 3235. Goran Hills, Ajmere.

**G. multiflora, Juss.**

Syn.—*G. SEPIARIA*, Roxb.

Vern.—*Pansaura*, HIND., BENG.; *Nilay*, NEPAL.

A shrub or small tree of the outer Himalaya from Nepal eastwards ascending to 4,000 feet, and of the Khásia Hills.

Wood white, soft, similar in structure to that of *G. oppositifolia*, but with smaller pores.

Used in Bengal for making hedges, for which it is very useful.

E 2327. Sivoke, Darjeeling Terai . . . . . lbs. 42

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## GREWIA.

550 *Grewia oppositifolia*, Roxb.

Vern.—*Dhumman*, *pharwa*, PB.; *Biál*, *biáng*, *bahúl*, *bhengal*, *bhenwa*, *bhimal*, HIND.; *Pastuwannee*, AFG.; *Bieul*, SIMLA.

A moderate sized tree of the North-West Himalaya, from the Indus to Nepal, ascending to 6,000 feet; also frequently cultivated.

Wood white, with a small mass of irregularly-shaped heartwood, hard, giving out an exceedingly unpleasant odour, especially when fresh cut. Weight 45 to 50 lbs. per cubic foot.

The wood is used for oar-shafts, handles, bows, &c., and for most purposes for which elasticity and toughness are required.

H 100.	Bhaji, Simla, 4,000 feet . . . . .	lbs.
H 154.	Sainj, „ 3,000 „ . . . . .	45
		50

551 *G. orbiculata*, Rottle.

Vern.—

A shrub of the Western Peninsula, nearly allied to *G. tiliaefolia*.

552 *G. pilosa*, Lam.

Syn.—*G. CARPINIFOLIA*, Roxb.

Vern.—*Posangni*, AJMERE; *Sitarga*, SONTAL.

A shrub with four-angled stem and brown bark found in the plains of the North-West, Central and South India.

Wood yellowish-white, hard, divided into triangular wedges proceeding from the centre towards the four corners and sides.

P 3230. Nagpahar, Ajmere.

P 3256. Goran Hills, Ajmere.

553 *G. polygama*, Roxb.

Vern.—

A shrub or small tree of N. W. India, and along the Himalaya from the Salt Range to Nepal ascending to 4,000 feet; of Konkan, Pegu, and Ceylon.

Wood resembles that of *G. oppositifolia*, but is free from unpleasant odour.

E 3813, Punkabari, Darjeeling, 3,000 feet, is probably this species. (*Specimens wanted.*)

554 *G. populifolia*, Vahl.

Vern.—*Ganger*, PB.; *Gango*, SIND; *Gangerun*, RAJPUTANA.

A small shrub, with grey bark, met with in the arid zone, in the Punjab, Sind, and Rajputana.

Wood yellow, hard, close-grained. Growth very slow.

The wood is used for walking sticks.

P 3228. Nagpahar, Ajmere.

(*Specimens wanted.*)

555 *G. salvifolia*, Heyne.

Vern.—*Bather*, *nikki-bekkar*, *gargas*, PB.; *Saras*, AJMERE; *Jára*, CIRCARS; *Dhattiki*, URIYA; *Sitanga*, SONTAL; *Bursu*, *sita pelu*, KOL.; *Khorkorend-na*, MAL. (CHUTIA NAGPUR.)

A small tree found in the Punjab, Sind, Central Provinces, and Southern India.

Wood yellow, heartwood orange-brown, hard, close-grained, structure similar to that of *G. tiliaefolia*, but medullary rays more numerous, and pores smaller.

P 3227. Nagpahar, Ajmere.

P 3237. Goran hills, Ajmere.

C 3457. Barasand Reserve, Palamow, Chutia Nagpur.

GUETTAR-  
DA.

556

**Grewia tiliaefolia, Vahl.**

Vern.—*Pharsa, dhamin*, HIND.; *Khesla, kasúl*, GOND.; *Olat*, SONTHAL;  
*Dhamni*, KURKU; *Charachi, tharrá*, TEL.; *Dhamono, dhaman*, URIYA;  
*Tháásal, batala*, KAN.; *Dámana, karákana* BOM.; *Damnakh*, BHIL;  
*Daman*, MAR.; *Sadachu*, MAL.; *Daminne*, CINGH; *Tarada*, MADURA.

A moderate sized tree of the sub-Himalayan tract, from the Jumna to Nepal, ascending to 4,000 feet; also of Central and South India.

Sapwood white; heartwood small, brown, close-grained, hard. Weight 34 to 48 lbs.

Used for shafts, shoulder poles, masts, oars, and all purposes for which elasticity, strength, and toughness are required.

		lbs.
C 188.	Mandla, Central Provinces (1871)	48
C 1169.	Ahiri Reserve, Central Provinces	46
C 2757.	Moharli Reserve, Central Provinces	53
C 2766.	Melghát, Berar	...
C 1253.	Gumsúr, Madras	49
No. 17.	Ceylon Collection	44

**G. vestita, Wall.**

557

Syn.—*G. ELASTICA*, Royle; *G. ASIATICA*, Linn. var. Hook. (*Fl. Ind.*, i, 387.)

Vern.—*Farri, phalwa, dhamman*, PB.; *Pharsia, dhamán, bimla*, HIND.;  
*Poto dhamun*, PALAMOW; *Sealposra*, NEPAL; *Pershuajelah*, MECHI;  
*Kúnsúg*, LEPCHA; *Pintayan*, BURM.

A small tree of the sub-Himalayan tract from the Indus eastwards, Bengal, Central India, and Burma.

Wood greyish-white, hard, and close-grained. Annual rings wavy. Weight about 50 lbs.

Wood tough and elastic, used for shoulder poles, bows, spear handles, &c. Splits well, and is sometimes used for shingles.

		lbs.
E 651.	Bamunpokri, Darjeeling Terai	43
E 2325.	" " "	51
B 3120.	Burma (1862) " " "	51

## GUAZUMA.

**Guazuma tomentosa, Kunth., STERCULIACEÆ.**

558

THE BASTARD CEDAR.

Vern.—*Thain puchie pattai*, TAM; *Rudracks-hachettu*, TEL.

A tree, stalkately hairy upon the young twigs. Perhaps only introduced into India, and probably a native of the West Indies. Frequently cultivated in the warmer parts of the plains and in Ceylon; distributed to Java and tropical America. Dr. Royle says it is "a South American tree, introduced into India, and largely cultivated at one time in the Madras Presidency, under the name of Bastard Cedar, as a fodder for cattle." Weight, according to Skinner, 32 lbs.

Wood used in Southern India for furniture and packing cases (*Specimens and further information wanted.*)

## GUETTARDA.

**Guettarda speciosa, Linn., RUBIACEÆ.**

559

Vern.—*Domdomah*, AND.; *Nil piteha*, CINGH.

A moderate sized evergreen tree found in tidal forests along the shores of the Andaman Islands and Ceylon.



**HÆMA-  
TOXYLON.**

Wood yellow, with a tinge of red.

B 1971. Andaman Islands (*Kurz*, 1866) . . . lbs.  
49(*Specimens wanted.*)**Gunpowder-charcoal—**

List of woody plants used in the manufacture of. See APPENDIX.

**GYMNEMA.**560 **Gymnema tigens, W. & A., ASCLEPIADEÆ.**

Vern.—

A climbing shrub of the lower Eastern Himalaya, extending to Burma.

(*Specimens wanted.*)**GYNOCARDIA.**561 **Gynocardia odorata, R. Br., BIXINIÆ.**Syn.—CHAULMOOGRA ADORATA, *Roxb.*Vern.—*Chaulmugri, petarkura*, BENG.; *Kadu*, NEPAL; *Tik*, LEPCHA; *Toungbung*, MAGH.

A moderate sized evergreen tree, readily known by the hard, round fruits which grow on the stem and main branches. It is found in Northern and Eastern Bengal and Assam, Chittagong, and Burma.

Wood hard, close-grained, yellow or light-brown. Weight 47 lbs. per cubic foot.

It is used in Chittagong for planking and for posts.

E 708. Chittagong . . . . . lbs.  
47**GYROCARPUS.**562 **Gyrocarpus Jacquini, Roxb., COMBRETACEÆ.**Vern.—*Zaitun*, HIND.; *Tanaku, kumar pulki*, TEL.; *Pipalay thitkouk*, BURM.

A deciduous tree of South India, Tenasserim and Andaman Islands.

Wood grey, soft. Weight 23 lbs. per cubic foot.

It is used in South India to make boxes and toys, and is preferred to all others for catarans.

D 1079. North Arcot, Madras . . . . . lbs.  
C 3517. Sonakalla, Khurda, Orissa. . . . . 23**HÆMATOXYLON.**563 **Hæmatoxylon Campechianum, Linn., LEGUMINOSÆ.**

LOGWOOD.

A native of Central America and the West Indies, imported into India.

## HEDGES.

## HARDWICKIA.

**Hardwickia binata, Roxb., LEGUMINOSÆ.**

**Vern.**—*Anjan*, HIND., MAR.; *Acha, alti*, TAM.; *Nar yepi, yapa*, TEL.; *Kamrā, karachi*, KAN.; *Chhota dundhera*, GOND; *Bone*, KURKU; *Parsid*, SINGROWLI.

A deciduous tree, found in the dry forests of South and Central India, but not everywhere; generally gregarious in isolated belts or patches of greater or less extent. Most commonly found on sandstone, but also to be met with on trap and granite. Wanting in the western moist zone, and not found in Northern India, though it occurs as far north as the Banda district of the North-Western Provinces.

Sapwood small, white; heartwood extremely hard, dark red, often with a purplish tinge, cross, and very close-grained. Weight about 82 lbs per cubic foot. Perhaps the hardest and heaviest wood in India; it is extremely durable, liable to split, but does not warp.

At the Dehri workshops it has been used instead of brass for bearings for machinery, and has been found to wear well. In the Sone River piles of *anjan* have been found after 20 years as sound as when first put in. It is used for bridge and house posts, and for ornamental work. It has been recommended for sleepers, but is probably too hard, heavy, and difficult to work to be much in favour.

C 800.	Punassa Reserve, Central Provinces	lbs.	84
C 1147.	Ahiri	"	84
C 2986.	Nimar, Central Provinces	"	83
C 2929.	Palamow, Bengal	"	82
D 1055.	Salem, Madras	"	83
D 2025.	Mysore	"	77
No. 31.	Salem Collection	"	82

**H. pinnata, Roxb.**

**Vern.**—*Kolāvu*, TINNEVELLY; *Matāyen samprāni*, TRAVANCORE; *Yenne*, MANJARABAD (*Van Someren*.)

A very large tree of the Western Ghāts from South Kanara to Travancore.

Sapwood large; heartwood brown, moderately hard, exuding a red, sticky substance similar to *Copabia balsam*, which consists of different resins dissolved in an essential oil. Weight 47 lbs. per cubic foot.

Wood used for building by coffee-planters and others.

D 1064.	Tinnevelly	lbs.	47
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## HEDERA.

**Hedera Helix, Linn., ARALIOCEÆ.**

IVY.

**Vern.**—*Halbambar, arbambal*, JHELM; *Karmora, mandia*, KASHMIR; *Kurol*, CHENAB; *Kuri, karūr*, RAVI; *Brūmbrām dakūri*, BEAS; *Karbaru, kaniūri, kadloti*, SUTLEJ; *Banda*, KUMAUN; *Dādela*, NEPAL.

A large wood climber of the Himalaya from the Indus to Bhutan between 3,000 and 9,000 feet, and of the Khāsia Hills.

Wood white, soft, porous. Weight 34 lbs.

H 69.	Mashobra, Simla, 7,000 feet	lbs.	...
H 3010.	Kotgarh, Simla, 7,500 feet	"	34

**Hedges—**

List of woody plants used for. See APPENDIX.

564

565

566

HEPTA-  
PLEURUM.

## HELICIA.

567 *Helicia robusta*, Wall, PROTEACEÆ.

Vern.—*Jowee*, SYLHET; *Tegela mugu*, KAN.; *Doukya beng*, BURM.

A small evergreen tree of the hills of Bengal, Burma, and Southern India.

Wood pinkish-grey, moderately hard. Weight 44 lbs. per cubic foot.

E 2409. Sumbong, Darjeeling, 2,000 feet . . . 44 lbs.

## HELICTERES.

568 *Helicteres Isora*, Linn., STERCULIACEÆ.

Vern.—*Maror-phal*, *jonkaphal*, *kapasi*, *bhendu*, HIND; *Antmorá*, BENG.; *Ainthia dhamin*, MONGHYR; *Renta*, *sakomsang*, KOL; *Aiteni*, KHARWAR; *Pecthmura*, SONTHAL; *Mori*, MAL. (S. P.); *Muri-muri*, URIYA; *Itah*, GODAVARI; *Aita*, GOND; *Gubadarra*, *kavanchi*, TEL.; *Kewan*, *kevana*, (the fruit—*murudasanga*), BOM.; *Kori-buta*, KURKU; *Anteri*, BANSWARA; *Thooggnachay*, BURM.

A large, dense shrub of the tropical or sub-Himalayan regions, from the Punjab to Bengal, South and Central India, and Burma.

Wood white, soft. Weight 35 lbs. per cubic foot.

The branches are used for fuel, fencing and thatching.

C 987. Bairagarh Reserve, Melghát . . . lbs.  
C 2804. Melghát, Berar . . . 35

## HELWINGIA.

569 *Helwingia himalaica*, Hook. f. and Th., ARALIACEÆ.

Vern.—*Lubbor*, LEPCHA.

A large shrub of the Eastern Himalaya, above 7,000 feet, and of the Khásia Hills.

Wood white, moderately hard, pith large.

E 3342. Darjeeling, 7,000 feet.

## HEMITELIA.

570 *Hemitelia decipiens*, J. Scott, FILICES.

Vern.—

A large tree fern, common in the Khasia Hill and the hills of Sikkim up to 6,000 feet.

E 3423. Balasan Valley, Darjeeling, 5,000 feet.

E 3424. Dumsong, Darjeeling, 5,000 feet.

## HEPTAPLEURUM.

571 *Heptapleurum elatum*, C. B. Clarke, ARALIACEÆ.

Vern.—*Chinia*, NEPAL.; *Prongsam*, LEPCHA.

A tree of the Himalaya, from Kumaun to Bhutan, between 5,000 and 7,000 feet.

Wood white, soft. Structure similar to that of *Macropanax undulatum*.

E 3326. Rangirum, Darjeeling, 6,000 feet.

3417. Darjeeling, 6,000 feet.

HETERO-  
PHRAGMA**Heptapleurum impressum, C. B. Clarke.**

Vern.—

A tree of the Sikkim Hills above 7,000 feet.

Wood grey, soft.

E 3635. Goompahar Forest, Darjeeling, 7,500 feet.

572

**H. venulosum, Seem.**Vern.—*Sukriruin*, Kol.

An evergreen climbing shrub frequent in the mixed forests all over Burma, from Chittagong and Ava down to Tenasserim and the Andamans. Also found extending to Bengal, Kumaun and South India.

Wood light-brown, soft.

C 3412. Neturhút, Palamow, 3,000 feet.

573

## HERITIERA.

**Heritiera littoralis, Dryand, STERCULIACEÆ.**Vern.—*Sunder, sundri*, BENG.; *Penglai-kanaso*, BURM.; *Mawtda*, AND.

A small gregarious tree found in the coasts and tidal forests of Bengal, the Peninsula, Burma, and the Andaman Islands.

Sapwood white; heartwood dark-red, very hard, close-grained. Weight approximately 65 lbs.

Sundri wood is durable; it is heavy and does not float, and is extremely tough.

It is used for a great variety of purposes, such as beams, buggy shafts, planking, posts, furniture, firewood; but chiefly in boat-building, for which purpose it is very extensively used in Calcutta, and particularly in the Government Dockyard at Kidderpore. It is the chief timber of the Sundarbans forests. Its reproduction is most favourable. On all lands flooded by ordinary flood tides, a new growth of jungle springs up immediately; but on land ordinarily above high-water mark, it only establishes itself by slow degrees. It soon spreads itself on newly formed islands on the sea edge of the forests.

					lbs.
E 401.	Sundarbans	.	.	.	70
E 2916.	"	.	.	.	66
E 3695.	" (1882)	.	.	.	75
B 3123.	Burma (1862)	.	.	.	69
B 517.	Andaman Islands	.	.	.	63
B 2285.	" " (1866)	.	.	.	68
B 2226.	" " "	.	.	.	53

**H. Papilio. Beddome.**Vern.—*Soundalay unna*, TINNEVELLY.

A very lofty tree in the evergreen forests of the Western Ghâts between Travancore and Tinnevely.

Wood red, very hard. Weight 63 lbs. per cubic foot.

It is used for building, cart-poles, and agricultural implements.

(Specimens wanted.)

575

## HETEROPHRAGMA.

**Heterophragma adenophylla, Seem., BIGNONIACEÆ.**Vern.—*Petthan*, BURM.

A moderate sized deciduous tree met with in Burma and Andaman Islands.

576

HIPPO-  
PHÆ.

Wood yellowish-white, moderately hard. Weight 41 lbs. per cubic foot.

B 1421. Tharrawaddy, Burma . . . . . lbs.  
42

577 *Heterophragma Roxburghii*, DC.

Syn.—*SPATHODEA ROXBURGHII*, Spreng.; *BIGNONIA QUADRILOCULARIS*, Roxb.

Vern.—*Baro-kala-goru*, TAM.; *Bondgu*, TEL.; *Pullung, warras*, MAR.

A large tree met with in Chanda District, Godavari forests, and Western Coast.

Wood grey, rough, moderately hard. Weight 40 lbs. per cubic foot.

C. 1106. Ahiri Reserve, Central Provinces . . . . . lbs.  
40

578 *H. sulfurea*, Kurz.

Vern.—*Thitlinda*, BURM.

A deciduous tree met with in Burma, chiefly in Prome district.

Wood dark-grey, soft, even-grained, in structure resembling that of

*H. Roxburghii*. Weight from 40 to 60 lbs.

B 2547. Burma (1862) . . . . . lbs.  
42

## HIBISCUS.

579 *Hibiscus macrophyllus*, Roxb., MALVACEÆ.

An evergreen tree, a native of Eastern Bengal and the Eastern Peninsula. Kurz says its Burmese name is *Yet woon*, and that the liber yields a strong fibre. It is called *Kachia udal*, *Kasaya palla* in Bengal.

Sapwood white, heartwood light, purplish-brown, soft, even-grained.

E. 3289. Rinkheong Reserve, Chittagong.

(Specimens wanted.)

580 *H. tiliaceus*, Linn.

Vern.—*Bola, chelwa*, BENG.; *Thengben, thimban*, BURM.; *Beligobel, bellipatta*, CINGH.

A much branched bush of the Coasts of India, Burma, and Ceylon.

Weight 35 to 38 lbs. per cubic foot.

The wood is not used except as fuel. Said to be used in Tahiti for planking and light boats.

E 405. Sundarbans . . . . . lbs.  
No. 7. Ceylon Collection (marked *Paritium tilia-* 35  
*ceum*) . . . . . 38

## HIPPOPHÆ.

581 *Hippophæ rhamnoides*, Linn. ?

Vern.—*Tsarap, tsarma, sirma, tsúk, tarru, niechak, tserkar, tsermang*, LADAK, PITI, and LAHOUL.

A large thorny shrub, sometimes a small tree met with in the inner tract of the North-West Himalaya, chiefly in moist, gravelly stream-beds, from 5,000 to 10,000 feet.

Heartwood yellowish-brown, mottled, moderately hard, close-grained. Weight 38 to 54 lbs.

It is used for fuel and charcoal, and the dry branches for hedges. It is very valuable in the dry, almost treeless tracts of the Inner Himalaya.

		lbs.
H 135.	Lahoul, 10,000 feet . . . . .	44
H 3063.	Kunawar, 8,000 „ . . . . .	...

## HIPTAGE.

### Hiptage Madablota, Gertn., MALPHIGIACEÆ.

Syn.—GAERTNEREA RACEMOSA, Roxb. (Fl. Ind. ii. 368.)

Vern.—*Kampti, madmalti*, HIND.; *Endra, chopar benkar, Khuma*, PB.; *Shempatti*, NEPAL; *Haladwail*, MAR.; *Madubhlata*, BENG.; *Boromali*, URIYA.

A common climbing shrub of most parts of India and Burma.

Wood red in the centre, yellowish white in the outer portion; moderately hard.

O 3655. Saharanpur, N. W. P.

## HOLARRHENA.

### Holarrhena antidysenterica, Wall., APOCYNACEÆ.

Vern.—*Karra, kaura, kora, kura, kuar, kari, karchi, dhudi*, HIND.; *Korkoria*, ORAON; *Kurchi*, BHUMIJ; *Towa, kuti*, KOL.; *Kuria*, KARWAR; *Pita, korwa, patrukurwan*, URIYA; *Kogar, kiam*, PB.; *Kachri*, OUDH; *Samoka, girchi*, GOND; *Kurakat*, KURKU; *Ankhria*, BHIL; *Dhonda, Gu7.*; *Kirra, karingi*, NEPAL; *Dudali, dudhkuri*, MECHI; *Dudcory*, ASS.; *Madmandi*, GARO; *Vepali*, TAM.; *Pala, kodaga*, TEL.; *Kurra*, MAR.; *Lettoukgyee*, BURM.

A small deciduous tree found in the sub-Himalayan tract from the Chenab eastwards ascending to 3,500 feet, in Oudh, Bengal, Central and South India.

Wood white, soft, even-grained. Weight about 40 lbs. per cubic foot.

The wood is largely used for carvings, especially at Saharanpur and Dehra Dún; in Assam for furniture; in South India for turning.

		lbs.
O 258.	Garhwal (1868) . . . . .	33
O 263.	„ „ . . . . .	34
O 3083.	Gonda, Oudh . . . . .	...
C 2801.	Melghat, Berar . . . . .	36
C 1158.	Ahiri Reserve, Central Provinces . . . . .	...
C 2734.	Moharli „ „ „ . . . . .	44
C 957.	Guzerat . . . . .	41
No. 52.	Salem Collection (marked <i>Wrightia tinctoria</i> ) . . . . .	39
C 3558.	Khurda Forests, Orissa . . . . .	39

### H. mitis, R. Br.

Vern.—*Kiriwalla*, CINGH.

A tree of Ceylon.

Wood white, close-grained, soft, in structure resembling that of

### H. antidysenterica.

No. 46.	Ceylon Collection ( <i>Echites lanceolata</i> ) . . . . .	lbs.
	(Specimens wanted.)	35

HOLARRHENA.

582.

583

584

HOMONO-  
YA.

## HOLIGARNA.

585 *Holigarna longifolia*, Roxb., ANACARDIACEÆ.

Vern.—*Barola*, BENG.; *Khreik*, MAGH.; *Hátugiri*, BOM.

A tall tree, native of Eastern Bengal, Chittagong, and Pegu. The Bombay sp. m seems most probably to be *H. Arnottiana*, Hook. f.

Wood grey with yellowish streaks, soft; not used.

E 3287. Rinkheong Forest, Chittagong.

## HOMALIUM.

586 *Homalium tomentosum*, Bth., SAMYDACEÆ.

Syn.—*BLACKWELLIA TOMENTOSA*, Vent. (*Brandis' Burma Catalogue*, 1862, No. 58.)

Vern.—*Myoukshaw*, BURM.

A large deciduous tree of Chittagong and Burma.

Wood brown, with dark-coloured heartwood, very hard, heavy and close-grained; splits in seasoning.

The wood is durable and is used for the teeth of harrows and for furniture.

B 331.	Burma (1866)	. . . . .	lbs.
B 2534.	" (1862)	. . . . .	63
B 2692.	Tavoy (Wallich, 1828)	. . . . .	50
B 2699.	" " "	. . . . .	61
B 2702.	" " "	. . . . .	64
E 3713.	R. B. Gardens, Calcutta.	. . . . .	55

## HOMONOYA.

587 *Homonoya riparia*, Lour., EUPHORBIACEÆ.

Syn.—*ADELIA NERIIFOLIA* Roxb. (*Fl. Ind.*, iii, 849.)

Vern.—*Kandágar*, KUMAUN; *Khola ruis*, NEPAL; *Mongthel*, LEPCHA; *Taniki*, TEL.; *Sundeh*, GOND; *Jeljambu*, KURKU; *Kat-alluri*, MAL.; *Momakha, yay-tagyeeben*, BURM.

A small shrub found on the rocky and stony river beds throughout India.

Wood grey or greyish-brown, moderately hard, close-grained. Weight 40 lbs. per cubic foot.

E 3303.	Sivoke, Darjeeling Terai	. . . . .	lbs.
			40

588 *H. symphyllæfolia*, Kurz.

Vern.—*Bajadanti*, NEPAL; *Ching*, LEPCHA.

A moderate sized evergreen tree, found in the damp forests of the Lower Darjeeling hills.

Wood yellowish-white, hard, smooth, close-grained. Weight 54 to 59 lbs. per cubic foot. The section of the stem is very irregular, presenting deep sinuosities.

The wood is hard and tough, and is used for punting poles by the Tista boatmen. It is recommended for trial as a substitute for boxwood.

E 496.	Khookloong Forest, Darjeeling	. . . . .	lbs.
E 2429.	Tista Valley, near Sivoke, Darjeeling	. . . . .	54
			59

## HOPEA.

**Hopea odorata**, Roxb., DIPTEROCARPEÆ.Vern.—*Thingan*, BURM.; *Rimda*, AND.

A large evergreen tree found scattered in the evergreen forests of British Burma and the Andaman Islands.

Wood yellow or yellowish-brown, hard, close, and even-grained. Weight about 50 lbs.

Very durable, *e. g.*, the specimens brought by Wallich from Tavoy in 1828, which, though now 50 years old, are perfectly sound and good. Boats made of it are said to last 20 years. It is the chief timber tree of Southern Tenasserim. It is used for house-building and canoes; also considered good for solid cart wheels.

		lbs.
B 282.	Burma (1867)	44
B 285.	"	"
B 546.	Martaban	53
B 2509.	Burma (1862)	43
B 2698.	Tavoy (Wallich, 1828)	52
B 2714.	"	49
B 2716.	"	56
B 511.	Andaman Islands	51
B 2201.	" (Major Ford, 1866)	54

**H. sp.**Vern.—*Thinganshaw*.

A tree met with in narrow belts along streams.

The wood is in great demand for boat hulls. (*Burma Forests Report*, 1880-81, p. 13).

B 3702. Burma.

**H. parviflora**, Beldome.Vern.—*Kiral boghi, tirpu*, KAN.; *Irubogam*, MAL.

A large tree of the western moist zone, of Malabar and South Kanara, up to 3,500 feet.

Wood brown, hard, and close-grained. weight 62 to 63 lbs.

The wood is of good quality, though scarcely known; it is valued in South Kanara for building temples, and may be found useful for sleepers.

		lbs.
W 745.	South Kanara	62
W 759	"	63

## HYDRANGÆA.

**Hydrangea robusta**, Hook. f. and Th., SAXIFRACEÆ.Vern.—*Bogoti*, NEPAL.

A small deciduous tree, found in the Eastern Himalaya and Sikkim, from 5,000 to 7,000 feet, generally as undergrowth in the oak forests.

Wood white, moderately hard, close-grained. Weight 42 lbs. per cubic foot.

		lbs.
E 2370.	Rangbúl, Darjeeling, 7,000 feet	42

**H. vestita**, Wall.Vern.—*Kulain*, BHUTIA; *Pokuttia*, NEPAL.

A small deciduous tree, met with in the Himalaya from Kumaun to Sikkim between 5,000 and 11,000 feet.

HYDRAN-  
GEA.

589

590

591

592

593



# ICHNOCARPUS.

Wood pinkish-white, moderately hard. Weight 45 lbs. per cubic foot.

E 373. Tonglo, Darjeeling, 10,000 feet . . . lbs.  
45

## HYMENODICTYON.

### 594 *Hymenodictyon excelsum*, Wall., RUBIACEÆ.

Syn.—*CINCHONA EXCELSA*, Roxb. (*Fl. Ind.*, i, 529.)

Vern.—*Bartui*, *barthoa*, PB.; *Bhulan*, *bhalena*, *bhamina*, *dhauli*, *kákrkat*, *bhákrkár*, *phaldu*, *bhobár*, *potúr*, HIND.; *Dondru*, *dandelo*, PANCH MEHALS; *Bhoursál*, MAR.; *Kalá kadú*, BOM.; *Sagapu*, TAM; *Dudiyetta*, *dudippa*, *chetippa*, *burja*, *bandara*, TEL.; *Bodoka*, *konoo*, URIYA; *Manabina*, KARNUL; *Sali*, KOL.; *Burkunda*, BHUMIJ.

A large deciduous tree, 30 to 40 feet high, met with on the dry hills at the base of the Western Himalayas, from Garhwal to Nepal, ascending to 2,500 feet; throughout the Deccan and Central India to the Anamalais. Also in Tenasserim and Chittagong. (*Hooker*.)

Wood brownish-grey, soft. Weight about 32 lbs. per cubic foot.

It is used for agricultural implements, scabbards, grain measures, palanquins, toys and similar articles.

		lbs.
O	216. Garhwal (1862)	28
O	350. Gorakhpur (1868)	...
O	1462. Bahraich, Oudh	32
O	1482. Kheri, Oudh	34
C	1127. Ahiri Reserve, Central Provinces	32
C	3565. Khurda Forests, Orissa	43

### 5 *H. thyrsoiflorum*, Wall.

Syn.—*CINCHONA THYRSIFLORA*, Roxb. (*Fl. Ind.*, i, 530.)

Vern.—*Purgur*, HIND.; *Khosan*, BURM.

A large deciduous tree of Northern and Eastern Bengal and Burma.

Wood white or grey, soft. Weight about 30 lbs. Structure the same as that of *H. excelsum*.

It is used for black-boards and packing cases.

		lbs.
E	1231. Sibsagar, Assam	26
E	1286. Cachar	34
B	279. Burma (1867)	31
B	3070. " (1862)	38
B	559. Prome, Burma	33
B	2287. Andaman Islands	34

## ICHNOCARPUS.

### 596 *Ichnocarpus frutescens*, R. Br., APOCYNÆ.

Syn.—*ECHITES FRUTESCENS*, Roxb. (*Fl. Ind.*, ii, 12.)

Vern.—*Dudhi*, *shyamá-lutta*, BENG.; *Srama*, HIND.; *Nalla-tiga*, TEL.; *Tan-si-pai*, BURM.

An extensive climber met with on the Western Himalayas, from Sirmoor to Nepal, altitude 1,000 to 2,000 feet; on the Upper Gangetic plains from Delhi to Bengal, Assam, Sylhet, Burma, Ceylon, and South India.

Wood white soft, without heartwood.

C 3469.

INDIGO-  
FERA.

## ILEX.

*Ilex dipyrrena*, Wall., ILICINÆ.

Vern.—*Shangala, kandlar, kalucho, diusa, dodru, dránda*, PB.; *Kaula, karaput, munasi, gulsima*, NEPAL; *Kandara, kadera, kateru*, SIMLA.

A small evergreen tree of the Himalaya, from the Indus to Bhutan above 5,000 feet.

Wood white, hard, close-grained Weight 46 lbs. per cubic foot.

H 21. Matiyána, Simla, 7,000 feet . . . lbs.  
46

*I. insignis*, Hook. f.

Vern.—*Lasuni*, NEPAL.

A small evergreen tree, found near Darjeeling, above 6,000 feet.

Wood white, soft, close-grained. Weight 40 lbs.

E 355. Gumpahar Forest, Darjeeling, 7,000 feet . . . lbs.  
40

E 3407. The Park, Darjeeling.

H 256. Garhwal Hills may be a specimen of this species, or perhaps *I. odorata*, Ham.

*I. theaefolia*, Wall.

Syn.—*I. GAULTHERIÆFOLIA*, Kurz. (245.)

A moderate sized evergreen tree, found near Darjeeling and Khásia Hills, and Tenasserim.

Wood white, soft, close-grained, with white concentric lines, which seem to correspond to annual rings. Weight 39 lbs. per cubic foot.

E 692. Chuttockpur, Darjeeling, 6,000 feet . . . lbs.  
39

## Implements, utensils, Machinery and general carpentry,—

Woods used for. See APPENDIX.

## INDIGOFERA.

*Indigofera atropurpurea*, Ham., LEGUMINOSÆ.

Vern.—*Bankati, kala sakna, sakna*, HIND.; *Khenti jand*, KAGHAN; *Kathi, gorkatri*, KASHMIR.

A small shrub of the Salt Range, from 2,500 to 5,000 feet, and outer Himalaya from the Jhelum to Nepal, ascending to 9,000 feet, but found as low as 1,200 feet on the Siwalik Hills.

Wood similar to that of *I. heterantha*.

H 2824. Cheng Forest, Simla, 7,000 feet.

*I. heterantha*, Wall.

Syn.—*I. GERARDIANA*, Wall. (*Hook, Fl. Ind., ii, 100, var.*)

Vern.—*Kati, khenti, mattu, kats, shágali*, PB.; *Káthi, theot*, SIMLA.

A small shrub of the North-West Himalaya and eastern skirts of the Suliman Range, ascending to 8,000 feet.

Wood hard, white, with an irregular heartwood of dark colour. Weight 56 lbs. per cubic foot.

H 2825. Fagu, Simla, 8,000 feet . . . lbs.  
56

H 2870. Nagkanda, Simla, 8,000 feet . . .

H 2935. Mahasu, Simla, 7,000 feet . . . 56

597

598

599

600

601

**JASMINUM.****602 Indigofera pulchella, Roxb.**

Vern.—*Utter*, KOL; *Yirhul*, KHARWAR.

The wood has a structure similar to that of *I. heterantha*.

C 3447. Barasand Reserve, Palamow, Chutia Nagpur.

**603 I. stachyodes, Ldl.**

Syn.—*I. DORUK*, Ham; var. *TOMENTOSA*, Baker.

Vern.—*Chiringi jhar*, NEPAL.

A small tree in the inner Eastern Himalaya, Khásia Hills, and Silhet. Wood hard, white, with an irregular dark-coloured heartwood.

E. 3359. Rhenokh, Sikkim, 3,000 feet.

**ISONANDRA.****604 Isonandra obovata, Griff., SAPOTACEÆ.**

Vern.—?

An evergreen tree of Tenasserim.

B 2687. Tavoy (1828) is possibly this species.

E 3691.

**IXORA.****605 Ixora parviflora, Vahl., RUBIACEÆ.**

THE TORCH TREE.

Vern.—*Kota gandhal*, HIND.; *Rangan*, BENG.; *Pété*, KOL.; *Disti*, GOND; *Kúrat*, *lokandi*, MAR.; *Shulundu kora*, TAM.; *Karipal*, *kachipadél*, *tadda pallu*, TEL.; *Kori*, GOND; *Korgi*, KAN.; *Tellu kurwan*, URIYA; *Maha ratambala*, CINGH.

An evergreen shrub or small tree of Bengal, Burma, Central and South India.

Wood light-brown, smooth, very hard, close-grained. No heartwood. Weight about 60 lbs. per cubic foot.

The wood is well suited for turning and might do for engraving. Beddome says it is used for furniture and building purposes.

C 1156. Ahiri Reserve, Central Provinces.

C 3464. Saranda Forests, Chutia Nagpur.

lbs.

57

**JASMINUM.****606 Jasminum grandiflorum, Linn., OLEACEÆ.**

Vern.—*Chambel*, *jati*, HIND.; *Myablay*, BURM.

Found on the Himalaya, and often cultivated.

H 3026. Nagkanda, 8,000 feet. Has, like *J. officinale*, white wood.

**607 J. humile, Linn.**

Syn.—*J. REVOLUTUM*, Sims.

Vern.—*Chamba*, *juari*, *tsonu*, *summun*, *jai*, *tsuman*, *kuja*, PB.; *Sonajáhi*, KUMAUN; *Sím*, *re*, CHENAB; *Shing*, *puring*, *marti*, SUTLEJ.

A small shrub, wild in the sub-tropical Himalaya at 2,000 to 5,000 feet, from Kashmir to Nepal, in Bhutan, South India, and Ceylon; widely cultivated in gardens throughout India.

Wood white, moderately hard, even-grained.

H 2891, H 3027. Nagkanda, Simla, 7,000 feet.

**Jasminum officinale, Linn.**

Vern.—*Chamba, chirichog, kirt*, KASHMIR; *Bansé, kwér, dumni*, CHENAB; *Dasst, samsem*, RAVI; *Suni, somun*, SUTLEJ; *Chambeli*, KUMAUN.

A climber of the Salt Range and the Himalaya from the Indus to Sarda.

H 2879. Nagkanda, 8,000 feet.

JUGLANS.

608

**JATROPHA.****Jatropha Curcas, Linn., EUPHORBIACEÆ.**

THE PHYSIC NUT.

Vern.—*Bagberenda, safed ind*, HIND., BENG.; *Kulejera, totka bendi*, KOL.; *Kadam*, NEPAL; *Kaat-amunak*, TAM.; *Nepalam*, TEL.; *Mara-narulle, maraharalu*, KAN.; *Kaak-avenako*, MAL.; *Thinbau-kyeksu*, BURM.

A shrub indigenous in America; cultivated in most parts of India, especially in Coromandel and Travancore.

Wood white, very soft, perishable. Weight, 25 lbs. per cubic foot. Often used for hedges, and planted near villages.

E 2427. Manjha, Darjeeling Terai . . . . . lbs.  
25

**J. glandulifera, Roxb.**

Vern.—*Lal-bherenda*, BENG.; *Yangalieranda*, BOM.; *Addalay*, TAM.; *Nela-amida*, TEL.; *Nikumba*, SANS.

A small gregarious bush frequenting waste places, exceedingly plentiful in Bengal, and not more than 3 feet in height. Less plentiful in Upper India, but often attains the height of 6 feet.

It is largely used for hedges.

609

610

**JUGLANS.****Juglans regia, Linn., JUGLANDÆÆ.**

THE WALNUT.

Vern.—*Charmaghs*, PERS.; *Ughs, waghs*, AFG.; *Akhor, krot, dún*, KASHMIR; *Kabotang, thanka*, PB.; *Starga*, LADAK; *Ká*, KUNAWAR; *Akhor, kharot*, KUMAUN; *Akhrot*, HIND.; *Akrút*, BENG.; *Kowal*, LEPCHA; *Tagashing*, BRUTIA.

A large tree wild in the North-West Provinces and the Sikkim Himalaya, and largely cultivated, especially in Afghanistan and Kashmir.

Heartwood grayish-brown with darker streaks, often beautifully mottled, moderately hard, even-grained, seasons and polishes well. Weight: European walnut weighs 40 to 48 lbs. per cubic foot; our specimens give, North-West Himalaya 41 lbs., Sikkim 33 lbs. on an average. The tree reaches a very large size. Brandis describes trees up to 28 feet in girth and 100 feet high from the North-West Himalaya; in Sikkim it often reaches 100 to 120 feet in height with a girth of 12 feet or more. It is being grown in plantations at Rangbúl and other places near Darjeeling.

The wood is extensively used for furniture throughout the Himalaya, and its principal use is for gun-stocks. In Darjeeling it is occasionally used for shingles by the Bhutias, but is not so good as chestnut. Before it became scarce in the forests it was largely used for house-fittings,

611

**JUNIPERUS.**

and many of the older houses in Darjeeling have their doors and windows and other fittings almost entirely of walnut.

		lbs.
H 7.	Theog, Simla, 5,000 feet	...
H 3163.	Dungagalli, Hazara, 7,000 feet	...
H 9.	Matiyána, Simla, 7,000 feet	38
H 29.	" " " "	43
H 15.	Jubal, 4,000 feet	33
H 35.	Madhan, 6,000 feet	41
H 780.	Chamba, 4,000 feet	46
H 125.	Ralla, Kulu, 6,000 feet	42
H 428.	Durani block, Deoban, Jaunsar, 6,000 feet	43
E 357.	Tukdah Forest, Darjeeling, 5,000 feet	28
E 2440.	Darjeeling, 6,000 feet	37
E 2441.	Rangirum Forest, Darjeeling, 5,000 feet	33
E 3587.	Darjeeling, 7,000 feet	...
E 3632.		

**JUNIPERUS.****612 Juniperus communis, Linn., CONIFERÆ.**

**Vern.**—*Nách, páma, pethra, bentha, betar*, KASHMIR; *CHAMBA* and *KULU*; *Lang shúr, thelu, lewar*, KUNAWAR; *Cháni, shúpa*, PITI; *Sbama*, LAHOUL; *Chichia*, KUMAUN.

A large shrub of the North-West Himalaya ascending to 14,000 feet, extending eastward to Kumaun, Mountains of Western Asia and Europe.

Wood white, moderately hard, fragrant, highly resinous, with a small mass of darker wood near the centre. Weight, according to Mathieu, *Fl. For.*, p. 448, 34 lbs.; our specimen gives 33 lbs. per cubic foot.

In the Himalaya it rarely attains more than 6 to 7 feet in height, often with a disproportionately thick stem, 18 to 24 inches in girth.

The wood is used for fuel.

		lbs.
H 137.	Lahoul, about 10,000 feet	33
H 907.	Upper Chenab "	...

**613 J. excelsa, M. Bieb.**

**HIMALAYAN PENCIL CEDAR.**

**Vern.**—*Apúrs*, BELUCHISTAN; *Chalai*, JHELAM; *Shúkpa, shúr, shúrgu, lewar*, CHENAB and SUTLEJ; *Luir*, RAVI; *Shúrbúta, shúrgú, shúkpa*, TIBET; *Dhup, padám, padmak, súrgi*, N.W. P.; *Dhúpi, dhúpri, chandan, shúkpa*, NEPAL.

A moderate sized tree of the arid tract of the North-West Himalaya and Western Tibet, extending eastward to Nepal, mountains of Afghanistan and North Beluchistan.

Sapwood white, heartwood red, very fragrant, often with a purplish tinge. Weight, Brandis gives 25 to 37 lbs.

The wood is used in Quetta and Khelat for house-building, also mixed with stone for the walls of houses in Lahoul. Some of the temples in Kunawar are built of it, and it is there made into drinking-cups and walking-sticks. At Leh it is largely used as fuel, and is sometimes made into charcoal.

		lbs.
H 163.	Hazara, 7,000 feet	32 "
H 772.	Barmur, Ravi, 7,000 feet	34
H 906.	Upper Chenab Valley, 8,000 feet	...
H 139.	Lahoul, about 8,000 feet	34
H 608.	" " " "	29

**Juniperus recurva, Ham.**

THE WEEPING BLUE JUNIPER.

**Vern.**—*Wetyar, bettar, chuch, thelu, phulu*, PB.; *Bettir, bheddra, bidel-ganj, thelu, phulu, jhora, gaggal, bil, uré, agáni*, N.-W. P.; *Tupi*, NEPAL; *Páma*, TIBET; *Deschú, chakbu*, SIKKIM.

A moderate sized tree native of Sikkim and Bhutan, 9,000 to 12,000 feet.

Sapwood white, heartwood light red, very fragrant. Structure similar to that of *J. excelsa* except that the short broader medullary rays are wanting. Weight 38 to 42 lbs. per cubic foot.

The wood is used for fuel at high elevations, and the twigs and leaves are largely exported from Sikkim to be used, as incense to burn in temples.

E 374.	Sandukpho, Darjeeling, 12,000 feet	lbs.
E 2438.	" " "	38
		42

H 144, Lahoul, is what is generally called *J. recurva* in the North-West Himalaya; a low procumbent shrub, covering large slopes in the inner arid Himalaya. Heartwood small, reddish, structure similar to that of the Blue Juniper of Sikkim. Weight 47 lbs. per cubic foot.

**J. Wallichiana, Hook. f. and Th.**

THE BLACK JUNIPER.

**Vern.**—*Tchorpo*, SIKKIM.

In the North-West a large shrub, in Sikkim a tree 9,000 to 15,000 feet from the Indus to Sikkim.

Wood resembling that of *J. excelsa*.

H 129. Rotang Pass, Lahoul, 12,000 feet.

**KANDELIA.****Kandelia Rheedii, W. & A., RHIZOPHOREÆ.**

**Vern.**—*Guria*, BENG.; *Tsjeron-kandel*, MALAY.

An evergreen shrub, or small tree, found on the muddy shores in the tidal creeks of Bengal, Burma, and the Western Coast.

Wood soft, close-grained. Weight 38 lbs. per cubic foot.

Wood used only for firewood.

E 407.	Sundarbans	lbs.
E 3698.	Sundarbans (1882)	38

**KAYEA.****Kayea floribunda, Wall. GUTTIFERÆ.**

**Vern.**—*Karram-jowa*, SYLHET.

A large tree of the tropical forests of the Eastern Himalaya extending to Martaban and ascending to 3,000 feet.

(*Specimens wanted.*)

**K. stylosa, Thwaites (Enum. 50.)**

**Vern.**—*Suvanda*, CINGH.

A large tree of Ceylon south of the island.

Wood soft, reddish; weight 56 lbs.

No. 82, Ceylon Collection

(*Specimens wanted.*)

lbs.

56

KAYEA.

614

615

616

617

618

LAGERS-  
TRÆMIA.

## KORTHALSIA.

- 619 **Korthalsia laciniosa**, *Mart.*, PALMÆ.  
 Syn.—*CALAMOSAGUS LACINIOSUS*, *Griff.*  
 Found in Tenasserim.  
*(Specimens wanted.)*
- 620 **K. scaphigera**, *Mart.*  
 Syn.—*CALAMOSAGUS SCAPHIGER*, *Griff.*  
 Vern.—*Bordah, paridah*, AND.  
 B 1041. Andaman Islands.  
*(Specimens wanted.)*

## KYDIA.

- 621 **Kydia calycina**, *Roxb.*, MALVACEÆ.  
 Syn.—*K. CALYCINA* and *FRATERNALIS*, *Roxb.* (*Fl. Ind.*, iii., 188, 189.)  
 Vern.—*Pola, p̄la, p̄li patha, potari*, HIND.; *Varanga, v̄arangada*, BOM.;  
*Baranga, bhoti*, C. P.; *Bittia gonyer*, KOL; *Derki*, KHARWAR; *Kubindé*,  
 NEPAL; *Sedangtaglar*, LEPCHA; *Mahow, moshungon*, MECHI; *Boldo-  
 bak*, GARO; *Kopasia*, URIYA; *Potri, pandiki, peddapotri, pedda kunji*,  
 TEL.; *Buruk, boshā, kunji*, GOND; *Bendi, bende-naru*, KAN.;  
*Warung*, MAR.; *Dwabote*, BURM.  
 A small tree, common in the forests of all parts of India and Burma  
 except the arid region. Growth fast, four to eight rings per inch of  
 radius.  
 Wood white, soft; no heart. Weight 40 lbs. on an average.  
 The wood is used for house-building, ploughs, and oars, and for carv-  
 ing.

		lbs.
C 1177.	Ahiri Reserve, Central Provinces	37
C 1163.	" " " " "	33
O 3154.	Saharanpur " " " "	45

## LAGERSTRÆMIA.

- 622 **Lagerstræmia Flos-Reginæ**, *Retz.*, LYTHRACEÆ.  
 Syn.—*L. REGINÆ*, *Roxb.*  
 Vern.—*Jarūl*, BENG.; *Gara saikre*, KOL.; *Ajhar*, ASS.; *Bolashari*, GARO;  
*Kadali*, TAM.; *Challā*, KAN.; *Adamboe*, MAL.; *Taman, mota bondara*,  
 MAR.; *Kamaung*, MAGH; *Pymma*, BURM.; *Murute*, CINGH.  
 A large deciduous tree, found in East Bengal, Assam, Burma, and on  
 the West Coast, extending north to Ratnagiri.  
 Wood shining, light red, hard. Weight about 40lbs. per cubic foot.  
 The wood in Burma is frequently very porous with an abundance of large  
 pores.  
 The most valuable timber of Sylhet, Cachar and Chittagong, and in  
 Burma the most valuable after teak. It is used in ship-building and for  
 boats and canoes, all kinds of construction, timber and carts. The Or-  
 dinance Department use it for many parts of their gun-carriages. In  
 South India it is used for building, and in Ceylon for casks. It is culti-

LAGE  
TEM

vated for ornament all over the hotter parts of India, and even as far north as Lahore.

	lbs.
E 630. Eastern Dúars, Assam . . . . .	48
E 1228. Sibságar, Assam . . . . .	40
E 2188. Nowgong, Assam . . . . .	40
E 1433. Assam . . . . .	...
E 1272. Cachar . . . . .	38.5
E 410. Sundarbans . . . . .	47
E 710. Chittagong . . . . .	47
W 726. South Kanara . . . . .	46
B 808. Pegu . . . . .	39
B 3067. Burma (1862) . . . . .	40
B 2717. Tavoy (Wallich, 1828) . . . . .	42
E 3688. Chittagong . . . . .	52.5

The following numbers are by Gamble referred to *L. Macrocarpa, Wall.*, a form which the *Flora of British India* reduces to *L. Flos-Regiæ, Retz.*

	lbs.
B 296. Burma (1867) . . . . .	48
B 306-8. " (1862) . . . . .	45

### *Lagerstœmia hypoleuca, Kurz.*

Vern.—*Pymmah*, BURM.; *Páddá*, AND.

A large deciduous tree of the Andaman Islands.

Wood red, hard. Weight 35 to 45 lbs. per cubic foot.

The wood is used largely in the Andamans for building, shingles, and other purposes.

	lbs.
B 510. Andaman Islands . . . . .	...
B 2202. " " (1866) . . . . .	45
B 2274. " " " . . . . .	38
B 2283. " " " . . . . .	34
B 2496. " " (Home, 1874, No. 2) . . . . .	44

### *L. lanceolata, Beddome.*

Syn.—*L. PARVIFLORA*; Roxb., var. *MAJUSCULA*, C. B. Clarke (*Hook, Fl. Ind.*, i, 575.)

Vern.—*Bandára, nandi*, KAN.; *Nána, sokutia*, MAR.; *Boda, bondaga*, DEC.

A large tree met with in the forests of the Western Ghâts as far north as Khandeish, Mysore and Courtallum. Inner wood red, moderately hard.

Weight 57 lbs. per cubic foot.

	lbs.
C 956. Guzerat, Bombay . . . . .	...
W 1220. North Kanara . . . . .	57

### *L. microcarpa, Wight.*

Syn.—*L. LANCEOLATA*,; Wall. (*Hook, Fl. Ind.*, ii, 576,; Brandis, 240.)

Vern.—*Benteak, venteah*, TAM.; *Ventaku*, TEL.; *Bolundár, billi nandi*, KAN.; *Nandi*, COORG; *Nanah*, MAR.

A large tree of the western forests of the Madras Presidency.

Wood red, moderately hard. Weight about 42 lbs.

Much used in construction and for ship-building, also for coffee-cases and for furniture.

	lbs.
W 765. South Kanara . . . . .	48
W 862. " " . . . . .	48



**LARIX.****626****Lagerstroemia parviflora, Hook. (Fl. Ind., ii, 575; Roxb., Fl. Ind. ii, 505.)**

**Vern.**—*Bākli, kat dhaura, dhaura, lendya, seina, sida, asid*, HIND.; *Sida*, BENG.; *MECHI*, ASS.; *Borders, bordengri*, NEPAL; *Kanhil*, LEPCHA.; *Shida*, GARO; *Shef*, BANDA; *Seji*, BIJERAGOGARH; *Kakria*, GUZ.; *Sahine*, CHANDA; *Chinangi*, TEL.; *Chungi, pilāgu*, HYDERABAD; *Nana, bondara, nandi, bellinandi, sina, lendi*, MAR.; *Ventaku, cheninge*, KAN; *Le. dya*, BAIGAS; *Sina, nelli, leria*, GOND; *Chekerey*, KURKU; *Tsam-belay*, BURM.

A large deciduous tree of the sub-Himalayan tract from the Jumna eastwards, of Oudh, Bengal, Assam, Central and South India.

Wood very hard, grey or greyish-brown, often with a reddish tinge, darker coloured near the centre, hard.

Wood tough, elastic, seasons well, works freely, and is fairly durable. It coppices well. Ten sleepers laid down on the Oudh and Rohilkhand Railway in 1870 were reported, on being examined in 1875, to be sound. A number of sleepers are being tried on the Northern Bengal State Railway, but the result is not yet known. It is used for ploughs and other agricultural implements, for construction, for buggy shafts and axe handles. It gives a very good charcoal.

		lbs.
O 232.	Garhwal (1868) . . . . .	45
O 2999.	" (1874) . . . . .	51
O 339.	Gorakhpur (1868) . . . . .	54
C 196.	Mandla, Central Provinces (1870) . . . . .	49
C 2735.	} Moharli Reserve, Central Provinces . . . . .	50
C 2749.		
C 1140.	Ahiri Reserve, Central Provinces . . . . .	60
C 2768.	Melghát, Berar . . . . .	54
E 666.	Bamunpokri, Darjeeling Terai . . . . .	52
E 2379.	Sukna Forest " " . . . . .	54
E 785.	Kámrúp, Assam . . . . .	...

**627****L. tomentosa, Presl.**

**Vern.**—*Laisa*, BURM.

A large deciduous tree found in Burma; frequent in Pegu and Martaban.

The timber is valued for bows and spear handles, and is also used for canoes and cart-wheels.

		lbs.
B 572.	Prome . . . . .	46
B 2533.	Burma (1862) . . . . .	53

**LARIX.****628****Larix Griffithii, Hook. f. and Th., CONIFERÆ.**

**Vern.**—*Sah, saar*, SIKKIM.

A deciduous tree found in Nepal, Sikkim, and Bhutan, between 8,000 and 12,000 feet.

Heartwood red; inner zone of each annual ring soft and spongy, outer zone narrower, firm, and shining. Resinous ducts scanty, large. Weight 32 lbs. per cubic foot.

The wood is considered durable, and is exported from Sikkim into Tibet. *Hooker in Himalayan Journals*, ii, p. 14, says that he never saw the wood to be red but always white and soft. Our specimen, however, is red, and closely resembles the wood of the European Larch.

		lbs.
E 969.	Chumbi Valley, Tibet, about 10,000 feet	32

## LEEAE.

## LAWSONIA.

**Lawsonia alba**, Lam., LYTHRACEÆ.

THE HENNA PLANT.

**Vern.**—*Henna*, *mehndi*, HIND.; *Dan*, BURM.; *Manghat*, URIYA; *Mari-thondi*, TAM.; *Gorantlu*, KAN.

A shrub found wild in Beluchistan, on the Coromandel Coast, and perhaps in Central India; cultivated throughout India, chiefly for its dye, but also as a hedge plant.

Wood grey, hard, close-grained.

C 2000. Nimar, Central Provinces.

629

## LEBEDIEROPSIS.

**Lebedieropsis orbicularis**, Müll. Arg., EUPHORBIACEÆ.**Syn.**—*CLUYTIA COLLINA*, Roxb. (*Fl. Ind.*, iii, 732.)**Vern.**—*Garrar*, *garári*, HIND.; *Parasu*, *pás*, KOL.; *Kergaili*, KHARWAR; *Karada*, URIYA; *Korsi*, *wodesha*, *kadishen*, *korshe*, TEL.; *Wodayá*, *waddan*, TAM.; *Garari*, MAR.; *Madara*, SINGH.

A small deciduous tree met with in Bandelkhand, Satpura Range, and forests southwards to the Godavari mountains of South India.

Wood red, tough, moderately hard to hard, close and even-grained, warps in seasoning. Heartwood dark red, small; sapwood lighter-coloured. Weight 54 to 55 lbs. per cubic foot.

**Beddome** says the wood is much used in India. It coppices readily and in great abundance; it may, therefore, be specially recommended where fuel has to be produced in tropical parts of India, but it is also recommended as a useful wood for turning. The outer crust of the capsule is said to be poisonous, and is so used in Singbhum by the Hókols, as also the root mixed with salt.

	lbs.
C 1175. Ahiri Reserve, Central Provinces	54
C 1252. Gumsú:, Madras	55
C 1306. " " " "	54
C 3452. Betlah Reserve, Palamow, Chutia Nagpur	...

## LEEAE.

**Leea gigantea**, Griff., AMPELIDÆÆ.**Vern.**—*Ashrah*, MECHI.

A small tree met with in forests of the Himalays, Eastern Bengal, Burma, and West Coast.

Wood moderately hard.

E 3278. Muraghát, West Dúars.

631

**L. robusta**, Roxb.**Vern.**—*Galem*, NEPAL; *Pantom*, LEPCHA.

A shrub, habitat the same as the preceding. The dry stems are sometimes used as torches.

Wood moderately hard; the stems are used for fencing, for stakes, and for temporary huts.

E 879. } Darjeeling Terai.  
E 2860. }

632

## LEYCESTERIA.

633

**Leea Sambriana, Willd.**

A shrub with fluted stems, common throughout the hotter parts of India.

E 880. Darjeeling Terai.

## LEPTOBCEA.

634

**Leptobcea multiflora, Bth., GESNERACEÆ.**

Syn.—*CHAMPIONIA MULTIFLORA*, C. B. Clarke.

Vern.—*Tungrangmook*, LEPCHA.

A small shrub, found on the hills of North-East Himalaya up to 3,000 feet.

Wood yellowish-white, hard, close and even-grained.

E 3314. Pankabari, Darjeeling, 2,000 feet.

## LEPTODERMIS.

635

**Leptodermis lanceolata, Wall., RUBIACEÆ.**

Vern.—*Jogia padera*, KUMAUN.

A small shrub of the North-Western Himalaya, generally on rocks between 5,000 and 10,000 feet.

Wood hard, white.

H 2822. Simla, 6,000 feet . . . . . lbs. 48

## LEUCÆNA.

636

**Leucæna glauca, Bth., LEGUMINOSÆ.**

Vern.—

A small tree found in the outer valleys of Kumaun and Garhwal.

Wood white, hard.

O 3657. Kumaun.

(Specimens wanted.)

## LEUCOMERIS.

637

**Leucomeris spectabilis, Don., COMPOSITÆ.**

Vern.—*Panca*, KUMAUN; *Bhæa, phusrae*, NEPAL.

A small tree of Nepal, also found in Garhwal.

(Specimens wanted.)

## LEYCESTERIA.

638

**Leycesteria formosa, Wall., CAPRIFOLIACEÆ.**

Vern.—*Malkarr, saunjla, nalkaru, karnaliya*, KUMAUN; *Tunguk*, LEPCHA.

An erect shrub with hollow, generally herbaceous, stems, found throughout the Himalaya from the Sutlej to Bhutan, from 5,000 to 10,000 feet.

## LINDERA.

Wood resembling in structure that of *Lonicera*, but with slightly broader medullary rays.

H. 2849. Mahasu, Simla, 8,000 feet.

## LICUALA.

*Licuala peltata*, Roxb., PALMÆ.

Vern.—*Patti, chattah-pak*, Ass.; *Kurud, kurkuti*, BENG.; *Sa-lu*, BURM.; *Kapadah*, AND.

A peltate-leaved palm of the forests of Assam, Eastern Bengal, Chittagong, Burma, and the Andamans; said to extend westward as far as Sikkim.

The stems are about 9 to 12 inches in girth and 5 to 15 feet high.

The wood is rather soft, the vascular bundles are evenly distributed and dark coloured.

E 3366. Kasalong Reserve, Chittagong.

## LIGUSTRUM.

*Ligustrum compactum*, Hook f. and Th.

Vern.—

A large shrub of the North-West Himalaya from the Beas to the Sarda, at 3,500 to 6,000 feet.

Wood white, moderately hard. Weight 64 lbs. per cubic foot.

*Ligustrum vulgare* is the *Privet*, common in hedges in Europe.

H 3059. Koti, Simla, 6,000 feet . . . . . lbs.  
64

## LIMONIA.

*Limonia acidissima*, Linn., RUTACEÆ.

Syn.—*L. CRENULATA*, Roxb.

Vern.—*Beli*, HIND.; *Belsian*, CHUTIA NAGPUR; *Torelaga*, TEL.; *Kawat*, MAR.; *Jhee baya-sa*, BURM.; *Bheuta*, URIYA; *Nasbela*, KAN.

A spinous shrub or small tree of dry hills in various parts of India.

Wood very hard, close-grained, yellowish-white. Weight 39 lbs. per cubic foot.

Might be useful for turning.

C 3530 } Khurda Forests, Orissa . . . . . lbs.  
C 3570 } 59  
C 3645 Daltonganj, Palamow, Chutia Nagpur.

## LINDERA.

*Lindera heterophylla*, Meissn., LAURACEÆ.

Vern.—*Siltimber*, NEPAL.

A small evergreen tree of the higher Darjeeling hills, above 9,000 feet.

Wood grey, moderately hard. Weight 42 lbs per cubic foot.

E 384. Tonglo, Darjeeling, 10,000 feet . . . . . lbs.  
42

E 3638 from Darjeeling, 11,000 feet, is either this or a neighbouring species.

## LITSÆA.

## LINOCIERA.

643 *Linociera macrophylla*, Wall (Cat. 2826.) OLEACEÆ.Syn.—*CHIONANTHUS MACROPHYLLA*, Kurz.

A small glabrous tree found in Eastern India.

Wood pinkish-white.

No. 3211. Saharanpur Gardens, cultivated.

644 *L. purpurea*, Vahl.Var.—*Linociera dichotoma*, Wall, in DC.Syn.—*CHIONANTHUS DICHOTOMA*, Roxb. (Fl. Ind.)Vern.—*Deorkuda*, KOL.

A small tree.

Wood moderately hard, close-grained, white.

C 3486. Kolhan Forests, Singbhum, Chutia Nagpur, is probably this species.

## LITSÆA.

645 *Litsæa consimilis*, Nees, LAURACEÆ.Syn.—*L. ZEYLANICA*, Nees (Brandis, 382, part.)Vern.—*Chirira*, *chir chira*, KUMAUN; *Pooeli*, NEPAL.

A small evergreen tree of the Himalaya from Simla eastwards.

Wood yellow, moderately hard, close-grained. Weight 43 lbs. per cubic foot.

A good wood.

E 2420. Hoom Linding, Darjeeling, 5,000 feet . . . lbs.  
43646 *L. lanuginosa*, Nees.Vern.—*Kalban*, PB.; *Kokra*, HIND.

A moderate sized tree of the outer Himalaya, from the Indus eastwards up to 6,000 feet.

Wood yellow when fresh cut.

H 2948. Sutlej Valley 3,000 feet.

647 *L. zeylanica*, Nees.Syn.—*L. FOLIOSA*, Nees; *L. UMBROSA*, Nees; *L. SCROBICULATA*, Nees in DC. Prodr. xv.Vern.—*Chimdi*, *shalanglu*, *rauli*, *chilotu*, *charkha*, *kaderu*, *marki*, *thirmal*, *sopru*, PB.; *Kanwal*, *tilbora*, *sara*, *jhatela*, *chirora*, *chirchira*, HIND.; *Belori*, BUGHERS; *Dawal kûrûndû*, CINGH.

A moderate sized evergreen tree of the North-West Himalaya, between 2,000 and 8,000 feet, of Eastern Bengal, Burma, and South India.

Wood reddish-white, with darker heartwood, moderately hard. Weight 36 to 38 lbs. per cubic foot.

It is used for house-building in South India.

H 63.	Nagkanda, Simla, 8,000 feet	. . .	lbs.
			36
H 3055.	Mahasu, Simla, 7,000 feet	. . .	lbs.
			38

No 20 of Adrian Mendis' Ceylon Collection (51 lbs.) marked *L. zeylanica* or Ceylon, has a shining wood with the same structure, but more close-grained than that of the tree of the North-West Himalaya.

## LONICERA.

## LIVISTONA.

**Livistona. Jenkinsiana, Griff., PALME.**

Vern.—*Talainyom, tulac-myom, purbong*, LEPCHA; *Toko pat*, Ass.

An extremely handsome, fan-leaved palm, found in the Sivoke Hills in Sikkim and eastward to Assam, where it is commonest in Nowgong and the Naga Hills. It attains 30 feet in height.

Wood very soft with white fibro-vascular bundles.

E 2461. Sivoke Hills, Darjeeling.

648

## LONICERA.

**Lonicera alpigena, Linn., CAPRIFOLIACEÆ.**

(THE HONEYSUCKLE is *L. periclymenum, Linn.*)

A shrub of the North-West Himalaya from Kashmir to Kumaon, 8,000 to 10,000 feet.

Wood moderately hard.

H 2912. Nagkanda, Simla, 8,000 feet.

H 3016. Hattu, Simla, 10,000 feet.

649

**L. angustifolia, Wall.**

Vern.—*Geang*, JAUNSAIR; *Pilru, philku*, SUTLEJ.

A small shrub of the Himalaya from the Indus to Sikkim, 6,000 to 10,000 feet.

Wood white, very close-grained. Weight 60 lbs. per cubic foot.

					lbs.
H 2843.	Mahasu,	Simla,	8,500 feet	. . .	60
H 2875.	Nagkanda,	Simla,	8,000 feet	. . .	...

650

**L. orientalis, Lamarck.**

A shrub found in the North-West Himalaya, from Kashmir to Kumaon, 8,000 to 10,000 feet.

Wood white, with a darker centre; moderately hard.

H 2909. Nagkanda, Simla, 8,000 feet.

H 3017. Hattu, Simla, 10,000 feet.

651

**L. quinquelocularis, Hardwicke.**

Vern.—*Jarlangei, adei*, TRANS-INDUS; *Phát, JHELUM*; *Tita bateri, pákhur*, KASHMIR; *Bakhru*, CHENAB; *Khám, sái*, RAVI; *Dendra*, BEAS; *Klianti, kraunti, takla, sbang, rasbam, bhajra, bhijaul, bijgai*, SUTLEJ; *Bet kukri, bhat kukra, cheraya, kurmalí*, KUMAUN.

A large deciduous shrub found on the Suliman Range, North-West Himalaya, between 2,500 and 9,000 feet.

Wood white, with a brown centre, very hard, and close-grained. Weight 52 lbs. per cubic foot.

Used only for firewood.

					lbs.
H 81.	Mashobra,	Simla,	7,000 feet	. . .	...
H 2874.	Nagkanda,	Simla,	8,000 feet	. . .	52.
H 3180.	Dungagali,	Hazara,	7,000 feet	. . .	...

652

## LORANTHUS.

## LOPHOPETALUM.

653 *Lophopetalum littorale*, Kurz, CELASTRINÆ.Syn.—KOKOONA LITTORALIS, Lawson (*Hook. Fl. Ind.*, i, 617.)

Vern.—Moondein, BURM.

A tree of Pegu and Tenasserim.

Wood grey, moderately hard, even-grained. Weight, on an average, 35 lbs. per cubic foot.

	lbs.
B 278. Burma (1867) . . . . .	27
B 2513. " (1862) . . . . .	36
B 2300. Andaman Islands (1866) . . . . .	41

654 *L. Wallichii*, Kurz.

Vern.—Mongtaing, moondein, BURM.

A large glabrous tree of Burma and the Andaman Islands, common in the open and more especially in the Eng forests.

The wood is pale, turning pale-brown, finely and rather loose grained, hard, rather light. Heartwood brown. It is recommended for furniture,

Major Ford says it is used by the Andamanese for writing boards.

	lbs.
B 1947. Tavoy ( <i>Kanazo-ta-loo</i> , Burma) . . . . .	31
B 2248. (1866) Andamans ( <i>Toung-limayo</i> ) . . . . .	...

655 *L. Wightianum*, Arn.

Vern.—Belpalé, KAN.

A large evergreen tree of the Western coast from the Konkan to Cape Comorin.

Wood reddish-grey, moderately hard, close-grained. Weight 28 to 29 lbs. per cubic foot.

The wood is much esteemed in South Kanara, where it is used for house-building.

	lbs.
W 723. South Kanara . . . . .	29
W 853. " " . . . . .	28

## LORANTHUS.

656 *Loranthus longiflorus*, Desr., LORANTHACEÆ.Syn.—*L. BICOLOR*, Roxb. (*Fl. Ind.*, i, 548.)Vern.—*Pand*, amút, PB.; *Bánda*, C. P.; *Patha*, BANDA.; *Bara manda*, BENG.; *Vánua*, SANS.; *Proosti*, LEPCHA.; *Ajeru*, NEPAL.; *Yelinga*, wadinika, TEL.; *Kaurak*, BHIL.; *Khyee poung*, BURM.

A parasitic shrub, met with in the outer Himalaya from the Jhelam eastwards, ascending to 7,500 feet, in Bengal, Central and South India, Burma, Andaman Islands, and Ceylon.

H 3061. Koti, Simla, 6,000 feet (on *Q. dilatata*).657 *L. vestitus*, Wall.Vern.—*Pand*, HIND.

A parasitic shrub of the North-West Himalaya from the Ravi to Sikim up to 7,000 feet, and of the Khásia Hills. It grows often to a large size, and is extremely common in some parts of the Himalaya.

MACARAN-  
GA.

Wood reddish-white, compact, close-grained, moderately hard.  
Weight 51 lbs per cubic foot.

H 3033 Theog, Simla, 7,000 feet (on *Q dilatata*) . . . lbs.  
H 2938 Below Naldehra, Simla, 5,000 feet (on *Q.* . . .  
*incana*) . . . . . 51

## LUCULIA.

**Luculia gratissima**, Sweet, RUBIACEÆ

Vern.—*Dowari*, NEPAL, *Simbran-grip*, LEPCHA.

An epiphytic shrub of the temperate Himalaya, from Nepal to Bhutan, altitude 4,000 to 6,000 feet, also in Ava. (*Kurz*.)

Weight of wood 23 lbs per cubic foot

(*Specimens wanted*)

## MABA.

**Maba andamanica**, Kurz, EBLNACEÆ.

Vern.—

A shrub, 3 to 5 feet, of the Andamans, frequent in the moister upper mixed forests, and of the Nicobar islands

Wood bluish-grey Weight 49 lbs per cubic foot,

B 2472 (*Kurz*, 1866) Andamans . . . . . lbs  
49

**M. buxifolia**, Pers.

Vern.—*Gua koli*, URIYA, *Me-pvoun*, BURM

A small evergreen tree, common in South Deccan, Peninsula and Ceylon, from Pegu to Malacca frequent, and found in Orissa

C 3502 Khurdha forests, Orissa.

## MACARANGA.

**Macaranga denticulata**, Mull Arg, EUPHORBIACEÆ

Vern.—*Mallata*, NEPAL, *Numro*, LEPCHA, *Ioung-kpek-man*, BURM.

A small tree, often gregarious, found in the Sikkim Hills, from 3,000 to 6,000 feet, chiefly on old clearings, and in Burma

Wood soft, greyish-red Weight 29 lbs per cubic foot

It is much used for fencing and temporary huts

E 2425 Tukdah Forest, Darjeeling, 5,000 feet . . . lbs  
29

**M. gummiflua**, Mull. Arg.

Vern.—*Jogi mallata*, NEPAL, *Chakro*, GARO, *Burua*, CHITTAGONG,  
*Pawaing*, MAGH

A small tree, found in Sikkim, from 3,000 to 6,000 feet, and in Eastern Bengal, often gregarious. Bark grey, smooth.

Wood greyish-red, soft Weight 22 lbs per cubic foot.

It is used for similar purposes to that of *M. denticulata*.

E 2426 Pugaingbong, Darjeeling, 5,000 feet . . . lbs  
22



## MACLURA.

663 *Macaranga indica*, Wight.

Vern.—*Degdakti, laikasau*, MECHI; *Lal mallata*, NEPAL; *Boura*, BENG.; *Modala*, ASS.

A small evergreen tree found in Sikkim up to 3,000 feet, the Khásia Hills, Western Ghâts, and Andaman Islands.

Wood greyish-red, moderately hard. Weight 33 lbs. per cubic foot.

		lbs.
E 2424.	Chumbati, Darjeeling, 2,000 feet	33
B 2475.	Andaman Islands ( <i>Kurs</i> , 1874)	...

664 *M. tomentosa*, Wight.

Vern.—*Vatte-kannu*, TAM.; *Upligi, upalkai, kanchupranthi*, KAN.; *Chenthakanni*, MYSORE; *Chanda*, BOM.; *Kanda*, CINGH.

A small tree of the Western Ghâts, usually found on clearings; grows very quickly.

Wood soft, perishable, and useless.

(Specimens wanted.)

## MACHILUS.

665 *Machilus odoratissima*, Nees., LAURACEÆ.

Syn.—*M. INDICA*, *Lour (Kurg, ii, 291.)*

Vern.—*Dalchini, mith-patta, prora, badror, leddil*, PB.; *Kawala*, HIND.; *Kawala, lali, jagrikat*, NEPAL.; *Phamlet*, LEPCHA; *Soom*, ASS.; *Ding-pingwait*, KHASIA.

A large tree of the outer Himalaya ascending to 8 000 feet, of the Khásia Hills and Burma. In Assam it grows gregariously, in large forests, which are used for feeding the silkworms (*Antheraea Assama*) which give the *Muga* or *Moonga* silk.

Wood grey, darkening, and turning red on exposure, soft to moderately hard, even-grained. Weight 40 lbs. per cubic foot.

Used in Darjeeling, where it is very common, for building, chiefly for native houses. Also for tea-boxes.

		lbs.
H 92.	The Glen, Simla, 6,000 feet	37
H 929.	Hazara, Punjab	39
E 435.	Rangbúl Forest, Darjeeling, 7,000 feet	43
E 2414.	" " "	36
E 592.	Khoklong Forest, Darjeeling Terai	43
E 1271.	Lakhimpur, Assam	43
E 3634.	Darjeeling, 7,000 feet.	

## MACLURA.

666 *Maclura tinctoria*, D. Don., URTICACEÆ.

THE FUSTIC.

A native of the West Indies, and Central and South America; introduced into India.

Wood orange-yellow, hard. Weight 53 lbs. per cubic foot.

Wood used for dyeing.

No. 2965.

## MAGNOLIA.

## MACROPANAX.

**Macropanax undulatum**, Seem., ARALIACEÆ.Vern.—*Chinia*, NEPAL; *Prongsam*, LEPCHA.

A moderate sized evergreen tree of the Eastern Himalaya, up to 5,000 feet.

Wood soft, yellowish-white, even-grained. Weight 30 lbs. per cubic foot.

E 688. Chuttockpur Forest, Darjeeling, 6,000 feet lbs.  
30

667

## MÆSA.

**Mæsa macrophylla**, Wall., MYRSINÆ.Vern.—*Phusera*, KUMAUN; *Bogoti*, NEPAL; *Tugom*, LEPCHA.

A large shrub or small tree met with in the Eastern Himalaya from Nepal to Bhutan, especially in second-growth forests.

Wood light brown, moderately hard; the sapwood is resinous.

A sticky resin exudes from the bark when cut.

E 3670. Kalimpong, Darjeeling, 4,000 feet.

668

**M. montana**, A. DC.Vern.—*Bilauni*, NEPAL; *Purmo*, LEPCHA.An evergreen, gregarious shrub or small tree met with in the North-East Himalaya from Nepal eastwards, Eastern Bengal, and Burma (*var. B. elongata* = *M. paniculata*, A. DC.; *Kurz*, ii, 99), often forming coppice-like, dense, second-growth forests at elevations from 3,000 to 6,000 feet on the Sikkim and Bhutan Hills.

Used only for fuel and rough house-posts.

Wood soft.

E 2389. Tukdah Forest, Darjeeling, 6,000 feet.

669

**M. rugosa**, Clarke.

A small tree or stout shrub, with pretty white flowers found in Sikkim between 5,000 and 7,000 feet, is frequent in the upper valleys of the Teesta and Rutong.

Wood light brown, soft. The sapwood is slightly resinous, annual rings marked by a dark line.

E 3609. Mirig, Laba, British Bhutan, 6,000 feet.

670

## MAGNOLIA.

**Magnolia Campbellii**, Hook. f. and Th., MASSROLIACEÆ,

RED MAGNOLIA.

Vern.—*Lal champ*, NEPAL; *Sigumgrip*, LEPCHA; *Pendder*, BHUTIA.

A large, tall, deciduous tree of Sikkim and Bhutan from 7,000 to 10,000 feet.

Wood white, very soft. Weight 25 lbs. per cubic foot.

It is occasionally used for planking, but now scarce. Chiefly remarkable for its magnificent large pink or white flowers, which appear in April.

E 365. Rangyrum Forest, Darjeeling, 7,500 feet lbs.  
25  
L 161

671

## MALLOTUS.

## MALLOTUS.

672 *Mallotus albus*, Müll. Arg., EUPHORBIACEÆ.

Syn.—*M. TETRACOCCLUS*, Kurz (ii., 382) ; *ROTTLERALBA* and *TETRACOCCA*, Roxb. (Fl. Ind., iii, 829, 826.)

Vern.—*Marleya*, SYLHET ; *Jogi mallata*, NEPAL ; *Numbong*, LEPCHA.

A small evergreen tree found in Sikkim, Eastern Bengal, Chittagong, Western Ghâts, Mysore, and Ceylon.

Wood soft, white. Weight 31 lbs. per cubic foot.

E 2422. Sivoke, Darjeeling Terai . . . lbs.  
31

673 *M. muricatus*, Müll. Arg.

Vern.—*Ouk-mouk*, BURM.

A large evergreen shrub of the Western Ghâts and Andaman Islands.

Wood grey, moderately hard. Weight 57 lbs. per cubic foot.

B 2476. Andaman Islands (Kurz, 1874) . . . lbs.  
57

674 *M. oreophilus*, Müll. Arg.

Vern.—*Numboongkor*, LEPCHA ; *Safed mallata*, NEPAL.

A small tree, common about Darjeeling, chiefly in second-growth forest ; met with in Sikkim 5,000 to 7,000 feet, and in the Khásia Hills.

Wood white, soft.

E 3397. The Park, Darjeeling, 6,500 feet.

675 *M. philippinensis*, Müll.

Syn.—*ROTTLERIA TINCTORIA*, Roxb.

Vern.—*Kamela*, *kamal*, *kambal*, *kâmila*, PR. ; *Râen*, *riâna*, *rolî*, KUMAUN ; *Rohni*, OUDH ; *Reoni*, BANDA ; *Rauni*, *rori*, C. P. ; *Koroi*, LOHARDUGGA ; *Pânag*, *tûng*, *kishur*, *kamalaguri* (the dye powder) BENG. ; *Sinduria*, NEPAL ; *Puroa*, *tukla*, LEPCHA ; *Buraiburi*, *sindurpong*, MECHI ; *Chinderbang*, *machugan*, GARO ; *Gangui*, *puddum*, ASS. ; *Kumala*, *sundragundi*, URIYA ; *Kapli*, *kapila*, TAM. ; *Kûmkuma*, *vassuntagunda*, *chendra*, *sinduri*, TEL. ; *Koku*, GOND ; *Kurku*, *corunga-manje*, *sarua-kasari*, *hulichellu*, KAN. ; *Shendri*, MAR. ; *Ponnagam*, MAL. ; *Hamparandella*, CINGH. ; *Tau-theedin*, BURM.

A small tree, met with in the Sub-Himalayan tract from the Indus eastwards, ascending to 4,500 feet, in Bengal, Central and South India, Burma, and the Andaman Islands.

Wood smooth, grey to light red, hard, close-grained, no heartwood ; it warps and shrinks.

Used only for fuel.

P 109. Sutlej Valley, 3,000 feet . . . lbs.  
50  
C 1178. Ahiri Reserve, Central Provinces . . . 43  
E 599. Bamunpokri, Darjeeling Terai . . . 51  
E 2421. " " " . . . 49

676 *M. Roxburghianus*, Müll. Arg.

Syn.—*ROTEERA PELTATA*, Roxb. (Fl. Ind., iii, 828.).

Vern.—*Kamli mallata*, *phusri mallata*, NEPAL ; *Nîm pooteli*, BENG. ; *Sîrgûllum*, SYLHET.

A small evergreen tree, found in Sikkim, Assam, Khásia Hills, Eastern Bengal and Burma.

## MARLEA.

Wood white, moderately hard, close-grained. Weight 46 lbs. per cubic foot.

E 2423. Chenga Forest, Darjeeling Terai . . . 46

## MANGIFERA.

**Mangifera caloneura**, Kurz., ANACARDIACEÆ.

Vern.—*Tauthayet*, BURM.

A moderate sized evergreen tree found in Martaban, and possibly Tavoy.

Wood light-brown, moderately hard. Weight 35 lbs. per cubic foot.

B 294.	Burma (1867)	. . . . .	lbs.
B 2519.	„ (1862)	. . . . .	38
			32

**M. indica**, Linn.

THE MANGO TREE.

Vern.—*Am*, HIND. and URIYA; *Ghari Am*, ASS.; *Yegachu*, *bocho*, GARO; *Marka*, GOND; *Ambe*, KURKU; *Amba*, MAR.; *Mañ*, *mangas*, TAM.; *Mamadi*, *mamid*, TEL.; *Uli*, KOL; *Ama*, BAIGAS; *Tsarai-pang*, MAGH; *Mavena*, *mávu*, KAN.; *Mava*, MAZ.; *Thayet*, BURM.

A densely-branched, large tree, wild on the Western Gháts, the Chutia Nagpur Hills and the Naga Hills; cultivated all over India for its fruit, the *Mango*.

Wood grey, coarse-grained, soft. Weight about 41 lbs. per cubic foot.

The wood is used for planking, door and window frames, in Calcutta for packing cases, and in Behar for indigo boxes; canoes and Masúla boats are made of it. The tree is, however, chiefly grown for the sake of its fruit.

E 637.	Goalpara, Assam	. . . . .	lbs.
B 2302.	Assam	. . . . .	48
E 3131.	Calcutta	. . . . .	38
E 1957.	Chittagong	. . . . .	41
D 2053.	Mysore	. . . . .	39
			39

**M. sylvatica**, Roxb. (*Fl. Ind.*, ii, 164.)

Vern.—*Bun am*, ASS.; *Lakshmi am*, SYLHET; *Chuchi am*, NEPAL; *Katár*, LEPCHA; *Bagnal*, MECHI; *Hseng neng thayet*, BURM.

A large evergreen tree, met with in Nepal, Eastern Bengal and the Andamans; rare in Burma.

Wood grey, moderately hard. Weight 34 to 41 lbs.

This wood, used unseasoned for packing tea, has been found to corrode the lead foil, thereby spoiling the tea.

E 594.	Hookloong Forest, Darjeeling Terai	. . . . .	lbs.
E 952.	Golaghát, Assam	. . . . .	41
			34

## MARLEA.

**Marlea begoniaefolia**, Roxb. (*Fl. Ind.*, ii, 261.) CORNACEÆ.

Vern.—*Garkum*, *budhal*, *tumbri*, N.-W. P.; *Bodara*, BHAS; *Sidlu*, CHENAB; *Prot*, KASHMIR; *Tilpattra*, *chitpattra*, *kurkui*, JHELUM; *Tumri*, KUMAUN; *Timil*, NEPAL; *Palet*, LEPCHA; *Tapuya*, BURM.; *Marlea*, *marlisa*, SYLHET.

A small tree of the outer Himalaya from the Indus to Bhutan, ascend-

**MELANORRHŒA.**

ing in the North-West to 6,000 feet, and in Sikkim to 9,000 feet; of the Khasia Hills, Eastern Bengal, Chittagong, and Martaban.

Wood white, soft, even-grained. Weight 42 lbs. per cubic foot.

The wood is used for native houses in Sylhet.

H 2837. The Glen, Simla, 6,000 feet . . . . . lbs.  
42

**MEDINILLA.****681 Medinilla himalayana, H. fil, MELASTOMACEÆ.**

Vern.—

An epiphytic shrub, found in Sikkim Hills, 3,000 to 6,000 feet, and in the Khasia Hills at an altitude of 5,000 feet.

Wood grey, soft; medullary rays of lighter colour than the rest of the wood.

E 3666. Rissom, Darjeeling, 6,000 feet.

**MELALEUCA.****682 Melaleuca Leucadendron, Linn., MYRTACEÆ.**

Syn.—M. CAJUPUTI, Roxb. (*Fl. Ind.*, iii, 324.)

Vern.—

An evergreen tree met with in Tenasserim.

Wood reddish-brown, hard.

O 3270. Saharanpur Gardens. . . . . lbs.  
E 3714. R. B. Gardens, Calcutta . . . . . 46

**683 M. rotundifolia.**

Vern.—

Wood has structure similar to that of *M. Leucadendron*. Weight 50 lbs. per cubic foot.

E 3715. R. B. Gardens, Calcutta . . . . . lbs.  
50

**MELANORRHŒA.****684 Melanorrhœa usitata, Wall., ANACARDIACEÆ.**

THE VARNISH TREE OF BURMA.

Vern.—*Khen*, MANIPUR; *Thitseeben*, BURM.; *Soothan*, TALEING; *Kaihong*, KAREN.

A medium sized deciduous tree found in Manipur and Burma.

Wood dark-red with yellowish streaks, turning very dark after long exposure; very hard. Weight about 60 lbs. per cubic foot.

The wood is used for tool handles, anchor stocks, and has lately been recommended for building, railway sleepers, gun-stocks, and other purposes.

B 551. Moulmein, Burma . . . . . lbs.  
B 2518. Burma (1862) . . . . . 56  
62

## MELIA.

## MELASTOMA.

**Melastoma Malabathricum, Linn., MELASTOMACEÆ.**

THE INDIAN RHODENDRON.

Vern.—*Choulisy*, NEPAL; *Tungbram*, LEPCHA; *Shapti, tunka*, MECHI; *Myetpyar*, BURM.

A large shrub found throughout India up to 6000 feet, chiefly near water-courses.

Wood moderately hard, light-brown with medullary patches.

E 3275. Borojhar Reserve, Western Dáars.

**M. Normale, Don.**Syn.—*M. NEPALENSIS*, Lodd.

A large shrub of the Himalaya from Nepal to Bhutan between 2,000 and 6,000 feet, and Khásia Hills 4,000 feet.

Wood light-brown, moderately hard.

E 3665. Rinkinpung, Darjeeling, 3,000 feet.

## MELIA.

**Melia Azadirachta, Linn., MELIACEÆ.**

THE NEEM TREE\* OF MARGOSA TREE.

Syn.—*M. INDICA*, Brandis, in Gamble, 69; *AZADIRACHTA INDICA*, *Adr. Fuss.*Vern.—*Asad-darakht, neb*, PERS.; *Nim*, HIND.; *Betain*, KUMAON; *Agas*, PALAMOW; *Limbo*, C. P.; *Kohumba*, G. C.; *Nimuri*, SINDI; *Veypani*, TAM.; *Yapa, yepa, taruka, vempa*, TEL.; *Limb, nimday*, MAR.; *Bakúyan*, BOM., and SIND; *Bevina, bévu, heb-bevu*, KAN.; *Thimbautama-kka, thimbau bhempu*, BURM.

A large tree planted and self-sown throughout the greater part of India and Burma.

Sapwood grey; heartwood red, very hard. Weight about 50 lbs. per cubic foot.

The wood is used for the construction of carts, in ship-building, and for making agricultural implements, and in South India for furniture. It is held sacred by Hindus, and idols are made of it.

P 463.	Ajmère (sapwood)	. . . .	lbs.
D 1053.	Salem, Madras	. . . .	48
No. 11.	Salem Collection	. . . .	53
C 3647.	Daltonganj, Palamow	. . . .	59
			...

**M. Azedarach, Linn.**

THE PERSIAN LILAC, BASTARD CEDAR OF BEAD TREE.

Vern.—*Drek, bakain, bakayan, betain, deikna, bakarja*, HIND.; *Ghoranim*, BENG.; *Chein kachein*, SUTLEJ; *Maha limbo, malla nim, muhli*, C. P.; *Bakaini*, NEPAL; *Malvembu, mallay vambu*, TAM.; *Taraka vepa, makánnim*, TEL.; *Bévu, chik bévu*, KAN.; *Ta-ma-kka*, BURM.

A tree commonly cultivated throughout India, and believed to be indigenous in the outer Himalaya, Siwalik tract, and the hills of Beluchistan.

Sapwood yellowish-white; heartwood soft red. Wright 30 to 40 lbs.

Dr. Bidie says the leaves contain green colouring matter, a fact which seems to be unknown in India generally.

685

686

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688

**MELIOSMA.**

Wood used for furniture. **Beddome, Brandis** and **Kurz** all say it warps and splits, but it is probably better than it has been supposed to be. It is very handsomely marked and polishes well.

	lbs.
P 146. Sainj, Giri Valley, Punjab . . . .	38
P 946. Lahore, Punjab . . . .	35
P 1201. Madhopur, Punjab . . . .	40

**89 Melia dubia, Cav.**

**Syn.**—*M. COMPOSITA*, Willd.; *M. SUPERBA*, and *M. ROBUSTA*, Roxb. (*Fl. Ind.*, ii, 396-7.)

**Vern.**—*Eistár*, limbarra, nimbarrá, BOM.; *Lapshi*, NEPAL; *Dingkurlong*, KHASIA HILLS; *Itallay vembu*, TAM.; *Bévu*, *betta bévu*, *kád bévu*, KAN.

A large deciduous tree, met with in the Eastern Himalaya, South India, Ceylon, and Burma.

Sapwood grey; heartwood reddish-white, soft. Weight 26 to 33 lbs. per cubic foot.

Used for building in South India. The wood will probably be found useful for tea-boxes and similar purposes, and the tree should be cultivated on account of its rapid growth.

	lbs.
E 705. Great Rangit Valley, Darjeeling . . . .	33
D 1093. Madura, Madras . . . .	26
No. 49. Ceylon Collection . . . .	26

**690 M. sempervirens, Sw.**

This species is often given as a synonym for **M. Azadarach**, Linn.  
(*Specimens wanted.*)

**MELIOSMA.****691 Meliosma dillenizifolia, Bl., SABIACEÆ.**

**Vern.**—*Porda*, *parenga*, *philli*, SIMLA; *Gweh*, N.-W. P.

A small deciduous tree, found throughout the Himalaya, from 4,000 to 11,000 feet, from the Sutlej to Bhutan.

Wood white, soft, even-grained. Weight 35 to 38 lbs. per cubic foot.

	lbs.
H 60. Nagkanda, Simla, 8,000 feet . . . .	38
H 2892. " " " . . . .	35

**692 M. simplicifolia, Roxb. (Fl. Ind., i, 103.)**

**Syn.**—*MILLINGTONIA*, Roxb.

**Vern.**—*Kośrú*, NEPAL; *Hingman*, LEPCHA; *Koko*, *laigongron*, MECHI; *Dibrú*, ASS.; *Dantrungi*, SYLHET; *Rong*, CHITTAGONG; *Gokpak*, MAGH.

An evergreen tree of the Eastern Himalaya, Assam, Chittagong, Burma, South India, and Ceylon.

Wood reddish, moderately hard, warps. Weight 36 lbs. per cubic foot.

	lbs.
E 2339. Sivoke, Darjeeling Terai . . . .	36

**693 M. Wallichii, Planch.**

**Vern.**—*Dababbi*, *nunewalai*, NEPAL; *Himan*, LEPCHA.

A large deciduous tree, met with in the Eastern Himalaya and Khasia Hills, above 5,000 feet.

Wood white, very soft, spongy. Weight 18 lbs. per cubic foot.

MERIAN-  
DRA.

It is used only for firewood, and occasionally for boxes. lbs.  
 E 361. Rangbúl, Darjeeling, 7,000 feet . . . 18  
 E 3672. The Park " " " . . . ...

## MELOCANNA.

**Melocanna bambusoides**, *Trim.*, GRAMINEÆ.

BAMBOO.

**Syn.**—BAMBUSA BACCIFERA, *Roxb.*

**Vern.**—*Múli, metunga, bish*, BENG.; *Kaoung-wa*, MAGH. (*Gamble.*)

The common gregarious bamboo of the Chittagong hills; it does not grow in clumps but spreads by means of underground root-stocks.

Stems 50 to 70 feet long, 12 to 13 inches girth.

It is of good quality, durable, straight, and with straight knots, and is very largely cut and exported for house-building, mats, and other purposes.

E 1325. Chittagong.

**M. humilis**, *Kurz (ii, 569.)*

**Vern.**—

A small bamboo of Arracan and Pegu. Stems 8 to 15 feet.  
*(Specimens wanted.)*

**M. Kurzii**, *Munro.*

**Syn.**—CEPHALOSTACHYUM SCHIZOSTACHYOIDES, *Kurz.*

**Vern.**—

A bamboo found in the Andamans. Stems 20 to 30 feet.  
*(Specimens wanted.)*

## MEMECYLON.

**Memecylon edule**, *Roxb.*, MELASTOMACEÆ.

**Vern.**—*Alli-cheddu*, TEL.; *Anjan, karpá*, BOM.

The *Flora of British India* gives 12 varieties of this plant. It is a small tree, met with in the Eastern Peninsula, Ceylon, Tenasserim and the Andaman Islands.

*(Specimens wanted.)*

**Var. i. typica.**

**Syn.**—M. TINCTORIUM, *Kæn.*; M. UMBELLATUM, *Burm.*

**Vern.**—*Alli-cheddu*, TEL.; *Anjan, karpá*, BOM.; *Wary-káhá, korá-káhá*, CINGH.

A small tree or shrub met with in the Eastern Peninsula, Ceylon, Tenasserim, and the Andaman Islands.

Wood strong, durable, very hard, and close-grained.

**Beddome** says it might answer as a substitute for boxwood.  
*(Specimens wanted.)*

## MERIANDRA.

**Meriandra strobilifera**, *Benth.*, LABIATÆ.

**Vern.**—

A small shrub met with in the North-West Himalaya, about 6,000 feet, chiefly found on dry rocks, especially limestone.

Wood white, hard.

H. 2839. Simla, 6,500 feet.

694

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## MICHELIA.

## MESUA.

700 *Mesua ferrea*, Linn., GUTIFERÆ.

**Vern.**—*Nagesar*, BENG.; *Nahor*, ASS.; *Nageshworo*, URIYA; *Nangal*, *mallay nangal*, TAM.; *Naga-kesara*, TEL.; *Nang*, TINNEVELLY; *Naga sawigi, kesara*, KAN.; *Nag-champa*, MAR.; *Behetta-champagam*, MAL.; *Ná, deya-ná*, CINGH.; *Kaing-go*, MAGH.; *Gangau*, BURM.; *Nahsher*, MECHI.

A large evergreen tree, met with in Eastern Bengal from the Monas eastward, in Assam, South India, Ceylon, Burma, and the Andamans; often cultivated.

Heartwood dark red, extremely hard, very durable. Weight generally 70 lbs. or more per cubic foot.

It has been found to answer for sleepers equally well with *Pynkado*, iron-wood, but the cost of cutting the hard wood, its weight, and the freight from the Tenasserim forests to Calcutta prevent its being much used, as the total cost is scarcely covered by the price (Rs. 5) per broad-gauge sleeper. It is used for building, for bridges, gun-stocks, and tool handles; but its more general use is prevented by its great hardness, weight, and the difficulty of working it.

		lbs.
E	2309. Eastern Dúars, Assam . . . . .	64
E	793. Kámrup " . . . . .	61
E	2190. Nowgong " . . . . .	75
F	1273. Cachar . . . . .	70
W	741. South Kanara . . . . .	62
B	2504. Burma (1862) . . . . .	69
B	554. Martaban . . . . .	75
B	2700. Tavoy ( <i>Wallich</i> , 1828) . . . . .	60
B	2238. Andamans ( <i>Major Ford</i> , 1866) . . . . .	76
B	2491. " ( <i>Home</i> , 1874, No. 10) . . . . .	67
B	520. " . . . . .	74
No.	59. Ceylon Collection ( <i>Mesua Nagaha</i> ) . . . . .	72
E	3687. Chittagong . . . . .	71

## MEZONEURUM.

701 *Mezoneurum cucullatum*, W & A., LEGUMINOSÆ.

**Syn.**—*CÆSALPINIA CUCULLATA*, Roxb. (*Fl. Ind.*, ii, 358.)

**Vern.**—*Biskoprah*, OUDH; *Sungray*, NEPAL; *Rungong, yangkup*, LEPCHA; *Ragi*, BOM.; *Kyoungchet*, BURM.

A large climber, stems and branches armed with strong hooked prickles with a corky base, found in the sub-Himalayan tract from the Sarda eastwards, in the Western Ghâts and Burma.

E 488. Darjeeling Terai.

## MICHELIA.

702 *Michelia Cathcartii*, Hook. f. and Th. MAGNOLIACEÆ.

**Vern.**—*Kala champ*, NEPAL; *Atokdang*, LEPCHA.

A large tree of the Sikkim Himalaya, 5,000 to 7,000 feet.

Sapwood large, white, heartwood dark olive-brown, moderately hard.

Weight 41 lbs.

Wood used for planking; will do well for tea-boxes.

E 2314. Rangbúl Forest, Darjeeling, 6,500 feet . . . . . 41

E 3321. Darjeeling, 6,500 feet.

## MICHELIA.

**Michelia Champaca, Linn.**

703

Vern.—*Champa*, HIND.; *Oullia champ*, NEPAL; *Titasappa*, ASS.; *Champa, champaka*, BENG.; *Shimbu, sempangam*, TAM.; *Champakamu, sampenga, kanchanam*, TEL.; *Sampighi*, KAN.; *Champakam*, MAL.; *Tsaga*, BURM.

A tall and large evergreen tree, with yellow sweetly-scented flowers, cultivated throughout India from the Ravi southwards and up to 5,400 feet in the North West Himalaya. Wild in Nepal, Bengal, Assam (ascending to 3,000 feet), Burma, and in the forests of the Western Ghâts as far as Kanara.

Wood soft, seasons and polishes well; sapwood white; heartwood light olive-brown. Weight about 40 lbs. The wood is very durable, e.g., specimen No. 1437 was cut by Griffith in 1836, and has been since then in Calcutta, and is now as sound as if fresh cut.

The wood is used for furniture, house-building, carriage work and native drums. It is considered valuable in Northern Bengal for planking, door-panels, and furniture; and in Assam for building and canoes.

	lbs.
E 576. Khookloong Forest, Darjeeling Terai	35
E 2313. Sukna Forest, Darjeeling Terai	37
E 2195. Nowgong, Assam	40
E 1049. Eastern Dúars, Assam	36
E 1437. Mishmi Hills (Griffith, 1836)	42

**M. excelsa, Blume.**

704

WHITE MAGNOLIA.

Vern.—*Bara champ, safed champ*, NEPAL; *Sigugrip, pendre*, LEPCHA; *Gók*, BHUTIA.

A lofty deciduous tree of the Eastern Himalaya, from 6,000 to 8,000 feet, and of the Khásia Hills.

Wood soft; sapwood small, white; heartwood olive-brown, glossy. According to Gamble, the wood is yellow when fresh cut. Weight 33 to 34 lbs. per cubic foot. The wood is very durable, e.g., specimen No. 1442 was cut in 1836 and kept since then in Calcutta; the wood is now as sound as if fresh cut.

Used for building, but chiefly for planking, door and window frames, and for furniture. The principal building and furniture wood of the Darjeeling Hills.

	lbs.
E 657. Chyttokpur Forest, Darjeeling, 6,000 feet	33
E 2312. Rangbúl Forest, Darjeeling, 7,000 feet	33
E 1442. Mishmi Hills (Griffith, 1836)	34
E 3631.	
E 3583. Darjeeling, 7,000 feet.	

**M. lanuginosa, Wall.**

705

Vern.—*Gogay champ*, NEPAL.

A large deciduous tree of Sikkim and the Khásia Hills, from 5,000 to 7,000 feet.

Wood grey, soft, shining. Weight 27 to 36 lbs. per cubic foot.

	lbs.
E 3099. Darjeeling, 7,000 feet	27
E 3331. Darjeeling, 6,000 „	36

**M. oblonga, Wall.**

706

Vern.—*Sappa, phulsappa*, ASS.

A tree of the Khásia Hills and Assam.

**MILIUSA.**

Sapwood white, heartwood dark-grey, soft. Weight 40 lbs. per cubic foot.

The wood is used in Assam for canoes and rough furniture,

E 1268. Lakhimpur, Assam . . . . . lbs.  
40

**MICROMELUM.****707 Micromelum pubescens, Bl., RUTACEÆ.**

**Vern.**—*Lasmani*, NEPAL; *Kumbrong*, LEPCHA; *Tanyenghpo*, BURM.

A small tree of the Eastern Himalaya, Assam, Eastern Bengal, South India, and Burma.

Wood rather heavy, hard, close-grained, yellowish-white.

E 3355. Teesta Valley, Darjeeling.

**MICROTROPIS.****708 Microtropis discolor, Wall, CELASTRINÆ.**

**Syn.**—*EUONYMUS GARCINIA* LIA, *Roxb. (Fl. Ind., i, 628.)*

**Vern.**—*Suglim*, LEPCHA; *Mori*, SYLHET.

A small tree of the sub-tropical Himalaya.

Wood white, soft. Weight 35 lbs. per cubic foot.

E 3345. Lebong, Darjeeling . . . . . lbs.  
35

**MILIUSA.****709 Milium Roxburghiana, Hook. f. and Th., ANONACEÆ.**

**Syn.**—*UVARIA DIOICA*, *Roxb. (Fl. Ind., ii, 659.)*

**Vern.**—*Sungden*, LEPCHA; *Tusbi*, SYLHET.

A small tree, met with in the Terai valleys of the Bengal Himalaya, Khásia Hills, Chittagong, and Burma.

Wood greyish-white, hard. Weight 51 lbs.

E 2316. Chunbati, Darjeeling, 2,000 feet . . . . . lbs.  
51

**710 M. velutina, Hook. f. and Th.**

**Syn.**—*UVARIA VILLOSA*, *Roxb. (Fl. Ind., ii, 664.)*

**Vern.**—*Dom-sál*, HIND.; *Kari*, C.P., *Kharrei*, OUDH; *Peddachilka dúdúga*, *nalla dúdúga*, TEL.; *Thabútyee*, BURM.

A deciduous moderate sized tree, with a short erect trunk; in Burma a large tree found in the sub-Himalayan tract from Nepal to the Ganges, in Central India, Godavari districts, and Burma.

Wood yellow when fresh cut, grey or greyish-brown when dry; moderately hard. **Brandis** says: "The seasoned wood weighs from 40 to 50 per cubic foot." **Kurz** gives the weight at 42 lbs.; **Benson's** experiments give 60; and **Skinner's** (No. 93) 50 lbs. **Benson's** experiments give P=833, and **Skinner's** P=839.

Used for carts and agricultural implements, spear-shafts, and oars.

lbs.  
B 3062. Prome, Burma . . . . .  
B 3122. Burma (1862) . . . . . 48  
O 3113. Dehra Dun . . . . . 53

## MIMOSA.

## MILLETTIA.

**Milletia auriculata**, Baker., LEGUMINOSÆ.

711

Syn.—ROBINIA MACROPHYLLA, Roxb. (*Fl. Ind.*, iii, 329); OTOSEMMA MACROPHYLLA, Bth.

Vern.—Mandh, OUDH; Gonjha, ganj, KUMAUN; Hël, KOL; Jirhûl, KHARWAR; Gurûr, GOND; Goujo, benrik, LEPCHA.

A very common large climber of the sub-Himalayan tract, from the Sutlej to Bhutan, ascending to 3,500 feet.

No. 3479. Sukna Forest, Darjeeling Terai.

**M. pendula**, Bth.

712

Syn.—M. LEUCANTHA, Kurz (i, 356.)

Vern.—Thinwin, BURM.

A deciduous tree, found in the savannah forests and dry lower hill forests of Burma, up to 2,000 feet, with small purplish-black heartwood, beautifully streaked out, very hard. Weight 60 to 70 lbs. per cubic foot.

The wood is used for cross pieces of harrows and is worthy of attention for its beautiful grain and dark colour.

	lbs.
B 2520. Myodwin, Burma (1862) . . . .	66
B 2249. Andamans, (Chloani, BURM.) . . . .	73
B 3141. Myoduria, Burma (1862) . . . .	67

These have a dark reddish-brown, very hard heartwood, in structure resembling **M. pendula**. They belong doubtless to a species of **Milletia**.

## MILLINGTONIA.

**Millingtonia hortensis**, Linn., BIGNONIACÆ.

713

THE INDIAN CORK TREE.

Syn.—BIGNONIA SUBEROSA, Roxb. (*Fl. Ind.*, iii, 111.)

Vern.—Nimi chambeli, akas-nim, HIND.; Aykayet, BURM.; Kât malli, TAM.

A large tree, cultivated in avenues and gardens in most parts of India, believed to be indigenous in Burma and the Malay Archipelago. Kurz says it is rather rare in the tropical forests from Martaban down to Tenasserim.

Wood soft, yellowish-white. Weight about 40 lbs. per cubic foot.

	lbs.
O 3160. Saharanpur Gardens . . . .	40

## MIMOSA.

**Mimosa rubicaulis**, Linn., LEGUMINOSÆ.

714

Syn.—M. MUTABILIS, Roxb. (*Fl. Ind.*, ii, 564.)

Vern.—Rûl, khair, didriâr, PB.; Hajeru, SIND; Agla, agl, Mgli, kacheyta, HIND.; Dandu, deta, KOL.; Arai, KHARWAR; Aradi, NEPAL; Sibrik, LEPCHA; Chilatti, BHIL.

A large, straggling, prickly shrub, found throughout the greater part of India, ascending to 4,000 feet in Kumaun and Sikkim.

Sapwood yellowish-white; heartwood red, hard. Weight 41 to 52 lbs.

lbs.

E 68o.	Bamunpokri, Darjeeling Terai . . . . .	41
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E 2353.	Bamanpokhi, Darjeeling Terai .	41
E 2354.	Chunbati, Darjeeling, 2,000 feet .	52

715 **Mimusops Elengi**, *Linn.*, SAPOTACEÆ.

**Vern.**—*Bukal, bohl*, BENG.; *Mulsári, maulser*, HIND.; *Magadam*, TAM.; *Pogada*, TEL.; *Bokál, boklu, mugali*, KAN.; *Barsoli*, MEYWAR; *Vavoli, ovalli*, MAR.; *Elengi*, MAL.; *Khaya*, BURM.; *Moonemal*, CINGH.

A large, evergreen tree, largely cultivated; said to be wild on the Western Ghâts as far north as Khandalla, North Circars, Burma, Andaman Islands, and Ceylon.

Sapwood large, whitish, very hard. Heartwood red. Weight about 50 lbs.

**Beddome** says the wood is used for house-building, carts, and cabinet-work.

W 1223. North Kanara	lbs.
	62

W 1223.	North Kanara	.	.	.	.	.	62
D 1073.	" Arcot	.	.	.	.	.	...

B 2224.	Andaman Islands	.	.	.	.	.	60
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B 2241. " " " " " " 58

No. 56. Ceylon Collection . . . . . 61

No. 13. Salem Collection (marked **Bassia longifolia**) . . . . . 87

**Syn.**—*M. HEXANDRA*, *Roxb. (Fl. Ind., ii, 238.)*

**Vern.**—*Khīr*, *khīrni*, HIND.; *Rain*, MEYWAR; *Palla*, *kannu-palle*, TAM.; *Palle panlo*, *palla pandu*, TEL.; *Khīrni*, MAR.; *Raini*, GOND; *Palk*, CINGH.

A large evergreen tree, met with on the Mountains of South India, extending in Central India to the sandstone hills of Pachnari, north of the Godavari. It is only found on sandstone, and frequently associated with *Buchanania angustifolia* and *Hardwickia binata*.

Heartwood red, very hard, tough, even-grained, and durable.\* Weight 60 to 72 lbs. per cubic foot.

It is used for sugar-mill beams, oil-presses, house-posts, and for turning.

D 1283.	Anamalai Hills	60	lbs.
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No. 65.	Ceylon Collection	.	.	.	.	.	68
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C 3551.	Khurdha forests, Orissa . . . . .	72
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ANDAMAN BULLET WOOD.

**Syn.**—*M. INDICA*, *Kurz.* (*And. Report*; *Brandis*, 292.)

Vern.—*Kappali*, BURM.; *Dogola*. AND.

A large evergreen tree of the Coast forests of the Andaman Islands and Tenasserim, in the Andamans, forming nearly pure forests on the level lands behind the beach and the mangrove swamps.

Wood handsome, red, smooth, very hard, close-grained, and durable, but apt to split.

It is used in the Andamans for bridges and house-posts, and Major Ford (1866) said it had been sent to Calcutta to be tried for sleepers.

B 513.	Andaman Islands	lbs.	41
B 2212.	" "	(1866)	75
B 2497.	" "	(Home, 1874, No. 6)	72

### MISCHODON.

**Mischodon zeylanicus**, *Thw.*, EUPHORBIACEÆ.

Vern.—*Tamana*.

A large handsome tree of Ceylon, and found by Beddome in Tinnevely.

Wood good.

(Specimens wanted.)

### MITREPHORA.

**Mitrephora grandiflora**, *Beddome* (t. 91), ANONACEÆ.

Vern.—

A large handsome tree of the South Kanara forests.

(Specimens wanted.)

**M. Vandœflora**, *Kurz* (i, 45.)

Vern.—

A tree of the forests of Chittagong and Pegu, but chiefly found in the Martaban Hills.

Wood grey, moderately hard.

B 3380. Hills east of Tounghoo, British Burma.

### MORINDA.

**Morinda exserta**, *Roxb.* (*Fl. Ind.*, i, 545; *Gamble*, 232.) RUBIACEÆ.

Vern.—*Al*, *ach*, HIND.; *Alberi*, *allādi*, PANCH MEHALS; *Hardi*, NEPAL; *Noona*, TAM; *Toghur*, *togara-mogali*, *mogali*, *manjapavatti*, TEL.; *Achu*, URIYA; *Nyau*, BURM.; *Ali*, GOND.

A moderate sized deciduous tree of Bengal, Burma, Guzerat, and South India.

Wood red, often yellow, with red streaks, or brown, moderately hard, close-grained. Weight about 40 lbs. per cubic foot. It is durable. Wallich's specimen (No. B 2690) cut in Burma in 1828, was quite sound when cut up after 50 years in Calcutta.

It is used for making plates and dishes.

		lbs.	
C 1130.	Ahiri Reserve, Central Provinces	.	36
C 1307.	Gumsūr, Madras	.	42
C 1246.	" "	.	47
B 2690.	Tavoy ( <i>Wallich</i> , 1828)	.	41
No. 34.	Salem Collection	.	40
C 35-35.	Khurda Forests, Orissa	.	40

The *Flora Indica* regards **Exserta**, *Roxb.*, as a mere sexual form with protruding stamens of **M. citrifolia**, *Roxb.*, and **M. tinctoria**, *Roxb.*

MORINDA.

718

719

720

721

## MORUS.

## MORINGA.

722 *Moringa concanensis*, Nimmo, MORINGEE.Vern.—*Sainjna*, RAJPUTANA.

A tree of Rajputana, Sind, and the Konkan.

Wood white, soft, in structure resembling that of *M. pterygosperma*, and the wood apparently not used.

E 3226. Nagpahar, Ajmere.

723 *M. pterygosperma*, Gaertn.

THE HORSE RADISH TREE.

Syn.—*HYPERANTHERA MORINGA*, Roxb. (*Fl. Ind.*, ii, 368.)Vern.—*Soanjna*, *sanjna*, *senjna*, *sejna*, *sohajna*, *sainjan*, HIND.; *Shijuna*, BENG.; *Segala*, *segasá*, BOM.; *Swanjera*, SIND.; *Munigha*, URIYA; *Moringa*, TAM.; *Saihan*, *sejan*, *múnga*, *mulaka*, TEL; *Nuggee*, KAN.; *Daintha*, *dan-tha-lone*, BURM.

A tree, wild in the sub-Himalayan tract from the Chenab to Oudh; commonly cultivated in India and Burma on account of its leaves, flowers, and pods, all of which are eaten.

Wood soft, white, spongy, perishable. Wood cells large, prominent.

E 3214. Calcutta.

## MORUS.

724 *Morus cuspidata*, Wall, URTICACEÆ.

MULBERRY.

Syn.—*M. serrata*, Roxb.Vern.—*Kimbu*, NEPAL; *Nambyong*, LEPCHA; *Singtok*, BHUTIA; *Bola*, ASS.

A tall tree met with in the valleys of the outer Eastern Himalaya, from Sikkim to Assam. It often reaches a very large size; trees over 100 feet in height are not uncommon in the valleys of Teesta and Great Rangit.

Wood yellow, with yellowish-brown heartwood, hard, close-grained, with a beautiful lustre. Weight about 45 lbs. per cubic foot.

The wood is used in Assam for boat oars and furniture; it does not seem to have been much used for tea-boxes, but would be extremely suitable. It resembles that of *M. serrata* and would be good for plank-  
ing, furniture, and cabinet-work.

E 706.	Great Rangit Valley, Darjeeling,	3,500 feet	lbs.
E 3396.	"	"	1,000 "
E 456.	Bamunpokri, Darjeeling	"	"
E 2306.	Eastern Dúars, Assam	"	"
E 2196.	Nowgong, Assam	"	"
E 2305.	Kamrup, "	"	"
			42
			44
			48
			47
			42
			49

725 *M. indica*, Linn.Vern.—*Túl*, PE.; *Tutri*, HIND.; *Shahtút*, KUMAUN; *Tút*, BENG.; *Chhota kimbu*, NEPAL; *Mekrap*, LEPCHA; *Nuni*, ASS.; *Posa*, BURM.

A moderate sized deciduous tree found in the sub-Himalayan tract ascending to 5,000 feet, in the Sikkim valleys up to 4,000 feet; Cultivated throughout North India.

Wood yellow with darker streaks of various colours, hard. Weight 42 to 47 lbs. per cubic foot.

P 891.	Multán	"	"	"	"	"	42
P 1195.	Madhopur	"	"	"	"	"	47

## MURRAYA.

**Morus serrata, Roxb. (Fl. Ind., iii, 596.)**

726

**Vern.**—*Karún, tút, káura, túlúkl, sóá, án, shta, chimu, kimu, PB.; Kimu, himu, HIND.*

A large deciduous tree, found in the North-West Himalaya between 4,000 and 9,000 feet. It is often of very large size. Dr. Stewart noted several trees of 20 feet girth, and one at the Hindu temple at Barmaor, Chamba, 7,000 feet of 28 feet girth.

Sapwood small, white; heartwood yellow or brown, moderately hard. Weight 35 to 36 lbs. per cubic foot. It works well, does not warp, and takes a beautiful polish, shewing a golden lustre.

It is used for troughs, agricultural implements and for cabinet-work. It is much esteemed by the Simla wood-carvers. lbs.

H 3174.	Dungagalli, Hazara, 7,000 feet	. . .	...
H 10.	Julung, Simla, 4,000 feet	. . .	36
H 28.	Madhan, Simla, 5,000 feet	. . .	35
H 95.	Simla, 6,000 feet	. . .	36

## MUCUNA.

**Mucuna macrocarpa, Wall., LEGUMINOSÆ.**

727

**Vern.**—*Balengra, NEPAL.*

An enormous climber of the hills of Sikkim, Khásia, Sylhet, and Burma up to 7,000 feet.

Wood fibrous, soft, grey, black when dry, white when fresh cut. It is composed of concentric rings, the inner part of which is a black tissue having tongues radiating outwards into a lighter tissue full of large and very large pores, which are often sub-divided.

E 3575. Darjeeling.

## MURRAYA.

**Murraya exotica, Linn., RUTACEÆ.**

728

**Vern.**—*Marchula, juti, HIND.; Kamini, BENG.; Naga golunga, TEL.; Rakel-berár, GOND.; Simali, NEPAL; Shitzem, LEPCHA; Makay, BURM.; Machalla, AND.*

A shrub or small tree met with in the outer Himalaya from the Jumna to Assam, ascending to 4,500 feet, in Behar, South India, Burma, and the Andaman Islands. It is often planted for ornament, and is sometimes called "Satinwood" at Port Blair.

Wood light-yellow, close-grained, very hard, apt to crack. Weight 62 lbs. per cubic foot.

The wood resembles boxwood, and has been tried for wood-engraving, for which it seems suitable if well seasoned; it is also used for handles of implements. lbs.

B 3195.	Andaman Islands (Home, 1874, No. 24)	. . .	63
B 519.	Andaman Islands	. . .	62
No. 26.	Ceylon Collection	. . .	61
C 3495.	Kolhan Forests, Singbhum, Chutia Nagpur	. . .	...

**M. Konigii, Spr.**

729

**Syn.**—*BERGERA KONIGII, Linn. (Roxb. Fl. Ind., ii, 375.)*

**Vern.**—*Gandla, gandi, bowala, PB.; Harri, katnim, HIND.; Barsanga, chanangi, HYDERABAD; Gant, BANDA; Húmwah, MECH; Karsepak, kari-vepa, TEL.; Kamwepila, TAM.; Kari bevu, KAN.*

A small tree of the outer Himalaya from the Ravi to Assam, Bengal, South India, and Burma.

Wood greyish-white, hard, and durable. Weight 43 lbs. per cubic foot. It is used for agricultural implements.



## MYRSINE.

## MYRICA.

730

**Myrica sapida, Wall, MYRICACEÆ.**

Vern.—*Kaphal, kaphal*, N. W. P.; *Kayaphala*, BOM.; *Kobusi*, NEPAL; *Dingsolir*, KHASIA.

A moderate sized evergreen tree of the outer Himalaya, from 3,000 to 6,000 feet, the Khásia Hills, and hills of Burma between 4,000 and 6,000 feet.

Wood purplish-grey, hard, close-grained, apt to warp.

Weight 48 lbs. per cubic foot. lbs.

H 87. Sutlej Valley, 5,000 feet . . . . . 46

H 426. Ghite Forest, Jaunsar, 5,500 feet . . . . . 45

E 799. Khásia Hills, about 5,000 feet . . . . . 52

## MYRICARIA.

731

**Myricaria germanica, Desv., TAMARISCINÆ.**

Vern.—*Bis, shalokát, kathi, humbu*, PB.; *Ombu*, LAHOUL.

A shrub inhabiting the inner Himalaya from Punjab to Sikkim.

Wood hard, white.

Used for fuel. lbs.

H 133. Lahoul, 10,000 feet . . . . . ...

E 974. Chumbi Valley, Tibet, 10,000 feet . . . . . ...

## MYRISTICA.

732

**Myristica Irya, Gaertn., TAMARISCINÆ.**

Vern.—*Maloh*, BURM.; *Mutwindá, chooglum*, AND.

A moderate sized evergreen tree of Burma, Andaman Islands, and Ceylon.

Wood dark olive-grey, hard, close-grained. Weight 52 lbs. per cubic foot. A handsome wood and worthy of attention; it seasons well and takes a good polish. lbs.

B 509. Andaman Islands . . . . . 52

733

**M. malabarica, Lamk.**

Vern.—*Kúnagi*, KAN.; *Pindi-kai* (seeds).

A small evergreen tree of South Kanara and Malabar.

Wood reddish-grey, moderately hard. Weight 32 lbs. per cubic foot. Used for building.

W 736. South Kanara . . . . . lbs.  
39

## MYRSINE.

734

**Myrsine africana, Linn., MYRSINÆ.**

Vern.—*Bebrang, kakhum, kokhúri, karuk, gugul, jutru, chachri, pratshu-branchu, khúshin, pápri, bandáru, binsin, atuljan*, PB.; *Guvaini, pahari cha, chúpra*, N. W. P.

A small evergreen shrub found in Afghanistan, Salt Range, and outer Himalaya as far as Nepal.

Wood white, moderately hard. Weight about 50 lbs. per cubic foot

The shrub might be useful for hedges. lbs.

H 2829. Simla, 6,000 feet . . . . . 49

**Myrsine capitellata, Wall.**

**Syn.**—*M. WIGHTIANA, Wall.*; *M. AVENIS, DC.*

A small tree found in Eastern Bengal, Hills of Southern India, Ceylon, and Burma.

Wood moderately hard, pink; said by **Beddome** to be hard and durable. Weight 22 lbs. per cubic foot. (*Wallich.*) lbs.

E 3663. Dumsong, Darjeeling, 5,000 feet. . . . .

**M. semiserrata, Wall.**

**Vern.**—*Purwana, kúngkúng, gogsa, bamora, gaunta, HIND.*; *Chupra, KUMAUN; Bilsí, beresi, kalikatha, bilauni, NEPAL*; *Tungcheong, LEPCHA.*

A shrub, small or middling sized tree, met with in the outer Himalaya from the Beas to Bhutan, from 3,000 to 9,000 feet, and the Nattoung Hills of Martaban.

Wood red, hard. Weight 51 lbs per cubic foot. **Wallich** says it is chocolate-coloured, heavy, hard, and handsome.

Used in Nepal for carpenters' work. (*Wallich.*) It splits rather, and is usually too small for anything but firewood. lbs.

H 2830. The Glen, Simla, 6,000 feet . . . . . 51

E 3322. Darjeeling, 6,500 feet . . . . .

**Native houses**—Woods used in the construction of. See APPENDIX.

**NAUCLEA.****Nauclea rotundifolia, Roxb. (Fl. Ind., i, 516), RUBIACEÆ.**

**Vern.** *Bingah, BURM.*

A large or moderate sized tree of Burma and the Andaman Islands.

Wood yellowish-brown, moderately hard, close and even-grained.

Weight 47 lbs. per cubic foot.

Wood not used, but likely to be of value for furniture and general carpentry. lbs.

B 2536. Burma (1862) . . . . . 51

B 2288. Andamans (1866) . . . . . 44

**NECTANDRA.****Nectandra Rodicæi, Rob. Schomb., LAURACEÆ.**

**GREENHEART.**

A tree of the West Indies.

Wood dark-brown, very hard and heavy, with the centre almost black.

Weight about 70 lbs. per cubic foot.

Largely used for ship building. lbs.

No. 2961. Demerara . . . . . 68

**NEPHELIUM.****Nephelium Litchi, Camb., SAPINDACEÆ.**

**THE LITCHI.**

**Syn.**—*SCYTAIA LITCHI, Roxb. (Fl. Ind., ii, 289.)*

**Vern.**—*Litchi, HIND.* (originally Chinese); *Kyetmouk, BURM.*

A handsome evergreen tree, introduced from South China, and now cultivated largely in India for its delicious fruit.

Wood red, hard, heavy. Weight about 55 lbs. per cubic foot.

O 3260. Saharanpur.

**NEPHELIUM.**

735

736

737

738

739

## NYSSA.

740 *Nephelium Longana*, Camb.

THE LONGAN.

Syn.—EUPHORIA LONGANA, Lamk.; SCYTHIA LONGANA, Roxb. (Fl. Ind., ii, 270.)

Vern.—Ashphal, BENG.; Poovati, TAM.; Puná, COURTALLUM; Wumb, BOM.; Mal ahcotá, KAN.; Kyetmouk, BURM.; Morre, CINGH.

A moderate sized evergreen tree, met with in Mysore, Western Ghâts, and Burma. It is also found in China, where it is called *Longan*.

Wood red, moderately hard. Weight 44 to 62 lbs. per cubic foot.

The wood is not used, though Kurz says it is good for furniture. It deserves notice.

lbs.

D 1278. Anamalai Hills, Madras	.	.	.	51
No. 57. Ceylon Collection	.	.	.	62

## NERIUM.

741 *Nerium odorum*, Solander., APOCYNÆ.Vern.—*Kanira*, kaner, ganhtra, PB.; *Kanyár*, KUMAUN.

A large shrub of South-West and Central India, Sind, Afghanistan, outer Himalaya to 5,500 feet. Often cultivated.

Wood greyish-white, soft.

lbs.

H 3057. Murree Hills, 5,000 feet	.	.	.	37
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## NYCTANTHES.

742 *Nyctanthès Arbor-tristis*, Linn., OLEACEÆ.Vern.—*Hár*, *siháru*, *harsinghár*, *saherwa*, *seoli*, *nibari*, HIND.; *Singhár*, *harsinghár*, *sephaliká*, BENG.; *Samsihar*, KHARWAR; *Saparung*, KOL.; *Harásingara*, *púrijákaka*, BOM.; *Hursing*, KAN.; *Pakúra*, *laduri*, *kuri*, *sháili*, PB.; *Kirsahár*, BAIGAS.; *Khersári*, GOND.; *Khúrasli*, MAR.; *Karassi*, BHIL.; *Gongo*, *seoli*, URIYA.; *Manja-pu*, (*paghala*), TAM.; *Poghada*, *Karchidá*, TEL.; *Tsaybeeloo*, BURM.

A small shrub of Central India, ascending to altitude 3,000 feet, and extending to Bengal and Burma. Cultivated throughout India.

Wood brown, close-grained.

Used for fuel.

(Specimens wanted.)

## NYSSA.

743 *Nyssa sessiliflora*, Hook. f., OLEACEÆ.

Syn.—ILEX DAPHNIPHYLLOIDES, Kurz (Hook. Fl. Ind., i, 606.)

Vern.—*Kalay*, *enilauni*, NEPAL.; *Tumbrung*, LEPCHA.

A large tree of the forests of the Sikkim Himalaya above 5,000 feet, and of Martaban between 4,000 and 6,000 feet.

Wood grey, soft, even-grained.

Used for house-building and other purposes about Darjeeling.

lbs.

E 695. Chuttockpur, Darjeeling, 6,000 feet	.	.	39
" E 3608. Darjeeling, 6,000 feet.			

## ODINA.

## OCHNA.

**Ochna andamanica, Kurz, OCHNACEÆ.**

Vern.—

A small glabrous tree, met with in the tropical and moister upper mixed forests of the Andamans.

Wood red or reddish-brown, hard, and somewhat brittle. Weight 58 lbs. per cubic foot.

B 1978. (1866) Andamans . . . . . lbs.  
58

**O. squarrosa, Linn.**Vern.—*Sunari, yerra-juvi*, TEL.; *Narole, mudah*, KAN.; *Koniara*, URIYA.

A shrub or small tree of Bengal, Burma, and South India.

Wood reddish-brown, moderately hard, close-grained. Weight 51 lbs. per cubic foot.

C 1305. Gumsúr . . . . . lbs.  
C 3541. Khurdha Forests, Orissa . . . . . 51  
C 3639. Orissa . . . . . 46  
... ..

**O. Wallichii, Planch.**Vern.—*Yodayah*, BURM.

A deciduous tree of Burma.

Wood light-brown, hard, close-grained. Weight 54 lbs. per cubic foot.

B 3132. Burma (1862) . . . . . lbs.  
54

## ODINA.

**Odina Wodier, Roxb., ANACARDIACEÆ.**

Vern.—*Kiamil, kimul, kamlai, kashmaln, jhingan, mowen, mohin, moyen, ginyan*, HIND.; *Garja, BIJERAGOGARH; Bara, daddabbi, halloray*, NEPAL; *Jiyal, lohgr bhadi*, BENG.; *Dhoka, LOHARDUGGA; Gob, AJMERE; Wodier, wude*, TAM.; *Gumpini, gumpna, dumpini, dumpri, dumper*, TEL.; *Kaikra, gumpri, gharri*, GOND; *Kebeda, KURKU; Shimti, punil, gojal*, KAN; *Moi, maja, moye*, MAR.; *Hneingpyoing*, MAGH; *Nabhay*, BURM.

A moderate sized or large deciduous tree with few branches, met with in the sub-Himalayan tract from the Indus eastwards, ascending to 4,000 feet, and in the forests of India and Burma.

Sapwood large; heartwood light-red when fresh cut, turning reddish-brown on exposure, moderately hard, close-grained, seasons well, and does not warp; not very durable. Average weight about 58 lbs.

The wood is used for spear-shafts, scabbards, wheel-spokes, cattle-yokes, oil-presses, and rice-pounders; it might be good for cabinet work. It has been tried for sleepers both in Madras and in the Oudh and Rohilkhand line, but has not succeeded. The tree is pollarded for fodder, especially for elephants.

H 3049. Kumharsen, Sutlej Valley, 2,500 feet (sap- wood) . . . . . lbs.  
P 447. Ajmere . . . . . 35  
P 3225 Nagpahar, Ajmere . . . . . 48  
O 226. Garhwal (1868) . . . . .  
O 2992. „ (1874) . . . . . 38  
41

## OLEA.

C 202.	Mandla, C. P. (1870)	lbs.
C 1103.	Ahiri Reserve, C.P.	38
C 3520.	Khurdha Forests, Orissa	48
E 661.	Bamunpokri, Darjeeling Terai	66
E 2342.	" "	46
E 1399.	Chittagong	48
E 7965.	" "	44
B 1414.	Tharrawaddy, Burma	61
B 2517.	Burma (1862)	64
B 516.	Andaman Islands	35
		60

## OLAX.

748 *Olax scandens*, Roxb. (*Fl. Ind.*, i, 163), OLACINÆE.

**Vern.**—*Dheniani*, HIND.; *Koko-aru*, BENG.; *Arthil*, MONGHYR; *Rimmel*, KOL.; *Bodo-bodoria*, ŪRIYA; *Kurpodur*, murki, malle, turka-vepa, TEL.; *Harduli*, urchirri, MAR.; *Lailoo*, BURM.

A large rambling shrub, sometimes a climber of the sub-Himalayan tract in Kumaun, Behar, Central and South India, and Burma.

Wood porous, yellowish-white, soft. Weight 38 lbs. per cubic foot.

C 1184.	Ahiri Reserve, Central Provinces	lbs.
C 2762.	Moharli "	40
C 3467.	Bandgaon, Singbhum, Chutia Nagpur	36
C 3494.	Kolhan Forests	...

## OLEA.

749 *Olea ferruginea*, Royle, OLEACEÆ.

**Syn.**—*O. cuspidata*, Wall.

**Vern.**—*Khwan*, shwan, TRANS-INDUS; *Zaitún*, ARG.; *Ko*, kohá, káo, kau, PB.; *Kau*, HIND.; *Khan*, SIND.

A moderate sized deciduous tree found in Sind, Suliman and Salt Ranges, North-West Himalaya, extending as far as the Jumna eastwards, and ascending to 6,000 feet.

Sapwood whitish; heartwood large, regularly shaped, from light-brown or olive-brown to nearly black, smooth, extremely hard. Weight 65 to 82 lbs. per cubic foot, averaging 73 lbs.

The wood polishes well and is highly prized for turning, for combs, agricultural implements and fuel.

It is worth trying as a substitute for boxwood or for the wood of the European olive and for inlaying work, as it is often prettily marbled.

H 162.	Shahpur (Stewart, 1866)	lbs.
H 118.	Chaziri-Rupi, 4,000 feet	65
H 779.	Chamba, 3,500 feet	73
H 425.	Koti Forest, Jaunsar, 6,000 feet	71
P 2729.	Hills of Sind	75
		82

750 *O. glandulifera*, Wall.

**Syn.**—*O. PANICULATA*, Roxb. (*Fl. Ind.*, i, 105) not *PANICULATA*, R. Brown (an Australian species.)

**Vern.**—*Gálili*, raban, sira, phalsh, PB.; *Gair*, galdú, garúr, KUMAUN.

A moderate sized tree found on the outer Himalaya from the Indus to Nepal, between 2,500 and 6,000 feet, the Nilgiris and Anamalai Hills in South India.

Wood reddish-grey, hard, durable, takes a good polish and is not liable to be eaten by insects. Weight on an average, 54.5 lbs. .

H 928. Hazara, 3,000 feet . . . . .	lbs.
H 2940. Suni, Simla, 3,000 feet . . . . .	59
H 222. Garhwal Hills (1868) . . . . .	55
	50

### ORMOSIA.

#### *Ormosia glauca*, Wall, LEGUMINOSÆ.

A large tree of the Central Himalaya.

Wood greyish-white, moderately hard.

E 3356. Sivoke Hills, Darjeeling, 1,500 feet, is probably this species.

### OROXYLUM.

#### *Oroxylum indicum*, Bth., BIGNONIACEÆ.

Syn.—*CALOSANTHES INDICA*, Bl., BIGNONIA INDICA, Roxb.

Vern.—*Mulin*, miringa, sori, talpalang, tatmorang, PB.; *Ullu*, arlu, kharkath, pharkath, sauna, assar, sauna, shyona, HIND.; *Sona*, HAZARIBAGH; *Sanpatti*, MONGHYR; *Arengi banu*, KOL; *Sonepatta*, KARWAR; *Tattunua*, C. P.; *Totilla*, karamkanda, NEPAL; *Kering*, GARO; *Cherpong* MECHI; *Sosong*, RAJBANSHI; *Pomponia*, phun phuna, URIYA; *Pana*, vanga, achi, TAM.; *Pamania*, pampana, dundillam, dondlup, TEL.; *Dhatte*, GOND; *Tetu*, MAR.; *Totilla*, CINGH; *Kyoungyabeng*, BURM.; *Baladah*, AND.

A small tree on the outer Himalaya, ascending to 3,500 feet, and extending from the Jumna eastward to Bengal, Burma, Central and South India, and the Andaman Islands.

Wood yellowish-white, soft; no heartwood. Weight 30 lbs. per cubic foot.

P 111. Sutlej Valley . . . . .	lbs.
C 1179. Ahiri Reserve, Central Provinces . . . . .	...
E 582. Khookloong Forest, Darjeeling Terai . . . . .	27
E 2395. Bamunpokri, Darjeeling Forest . . . . .	32
	31

### OSBECKIA.

#### *Osbeckia crinita*, Benth., MELASTOMACEÆ.

Syn.—*O. STELLATA*, Don.

Vern.—*Number*, LEFCHA.

A shrub of the Eastern Himalaya and Khásia Hills from 4,000 to 8,000 feet: common about Darjeeling.

Wood light-brown, moderately hard.

E 3310. Darjeeling, 6,500 feet.

### OSMANTHUS.

#### *Osmanthus*, nov. sp., OBACEÆ.

Vern.—*Silingi*, NEPAL; *Chashing*, BHUTIA.

A small tree, with opposite coriaceous leaves, found at Tonglo, Darjeeling, 10,000 feet.

Wood white, hard, close-grained, seasons well, mottled on vertical sections. Weight 53 lbs. per cubic foot.

E 379. Tonglo, Darjeeling, 10,000 feet . . . . .	lbs.
	53
	181

OSMAN-  
THUS.

751

752

753

754

OXYTEN-  
ANTHERA.

## OSTODES.

755 *Ostodes paniculata*, Bl., EUPHORBIACEÆ.Vern.—*Bepari*, NEPAL.; *Palok*, LEPCHA.

A large evergreen tree of Sikkim and the Khásia Hills.

Wood white, soft. Weight 26 lbs. per cubic foot.

E 3110. Darjeeling, 6,000 feet . . . . . lbs.  
26

## OUGEINIA.

756 *Ougeinia dalbergioides*, Benth., LEGUMINOSÆ.Syn.—DALBERGIA Oojeinensis, Roxb. (*Fl. Ind.*, iii, '220.)Vern.—*Sándan*, *asainda*, *tinnas*, *timsa*, HIND.; *Shánjan*, *púnan*, OUDH.; *Sandan pipli*, NEPAL.; *Bandhona*, URIVA; *Kala palás*, *tewas*, MAR.; *Sér*, *shermana*, *tinsai*, GOND.; *Dargu*, *tella motku*, TEL.; *Kari mutal*, KAN.; *Tewsa*, BHIL.; *Ruta*, KOL.; *Rutok*, KURKU; *Tunnia*, BANSWARA; *Telus*, KHANDEISH.

A moderate sized deciduous tree, under certain circumstances gregarious, found chiefly in the intermediate zone, sub-Himalayan tract, from the Sutlej to the Tista ascending to 5,000 feet, in Central India and the Western Coast.

Sapwood small; heartwood mottled, light-brown, sometimes reddish-brown, hard, close-grained; is tough and durable, and takes a beautiful polish. Weight 55 to 60 lbs per cubic foot.

It is used for agricultural implements, carriage poles, wheels and furniture; also for building. A crystalline substance, probably magnesia, is sometimes found in the wood. (See specimen E 601.)

P 102.	Sutlej Valley, Punjab	. . . . .	lbs.
O 212.	Garhwal (1868)	. . . . .	52
C 185.	Mandla, Central Provinces (1870)	. . . . .	53
C 1152.	Ahiri Reserve, Central Provinces	. . . . .	54
C 2707.	Melghát, Berar	. . . . .	55
C 1242.	Gumsúr, Madras	. . . . .	52
E 601.	Lohagarhi, Darjeeling Terai	. . . . .	67
W 1226.	North Kanara	. . . . .	53
C 3477.	Saranda forests, Chutia Nagpur	. . . . .	...
C 3681.	Palamow, Chota Nagpore (1882)	. . . . .	56

## OXYTENANTHERA.

757 *Oxytenanthera albo-ciliata*, Munro (129.)

Syn.—GIGANTOCHLOA ALBO-CILIATA, Kurz (ii. 55f.)

Vern.—*Wa-pyoo-galay*, BURM.

A bamboo of Burma with stems 20 to 30 feet in height.

758 *O. monostigma*, Beddome (ccxxxvii.)

A bamboo met with in the Anamalai Hills of South India.

759 *O. nigro-ciliata*, Munro (128.)

Syn.—BAMBUSA GRACILIS, Wall.

Vern.—

A bamboo of the Western Ghâts, Chittagong, Burma, and the Andamans.

**Oxytenanthera Stocksii**, *Munro* (130); *Beddome* (ccxxxiii.)

A bamboo found in the Konkan.

**PARKIA.**

760

**O. Thwaitesii**, *Munro* (129.)Vern.—*Watte*, ANAMALAIS.

761

A bamboo of the Western Ghâts with stems 10 to 12 feet high and 1 inch in diameter.

**PAJANELIA.****Pajanelia multijuga**, *DC.*, BIGNONIACEÆ.Vern.—*Kyoungdoun*, kingalun, BURM.; *Kaukonda*, AND.

A large evergreen tree of Burma and Andaman Islands.

Wood orange-brown, very hard, close-grained. Weight 52 lbs. per cubic foot.

Used for canoes by the Andamanese. A fine wood.

762

B 503. Andaman Islands . . . . . lbs.  
52**PANDANUS.****Pandanus furcatus**, *Roxb.*, PANDANÆ.Vern.—*Jarika*, NEPAL; *Bor*, LEPCHA; *Okai-yega*, CINGH.

A palm-like tree of Northern and Eastern Bengal, Burma, and the Western Coast.

Stems grey, with a distinct bark, wood resembling that of palms. Outer wood moderately hard, containing satiny vascular bundles: inner wood soft, spongy.

763

E 473. Darjeeling Hills . . . . . lbs.  
30

E 2462. „ „ . . . . .

**PARAMIGNYA.****Paramignya monophylla**, *Wight*, RUTACEÆ.Vern.—*Naikanba*, NEPAL; *Jhunok*, LEPCHA.

An erect or climbing shrub extending from Sikkim down to Tenasserim.

Wood white, hard, close-grained.

E. 3295. Jabukkola, Darjeeling, 4,000 feet.

764

**PARKIA.****Parkia Roxburghii**, *G. Don.*, LEGUMINOSÆ.Syn.—*MIMOSA BIGLOBOSA*, *Roxb.* (*Fl. Ind. ii.*, 551.)Vern.—*Sapota*, SYLHET.

A tree of Assam, Eastern Bengal, Chittagong, and Burma.

Wood grey.

O 3264. Saharunpur.

765



## PENTACE.

## PARROTIA.

766 *Parrotia Jacquemontiana*, Decaisne, HAMAMELIDÆ.

Vern.—*Páser*, *pešhára*, *po*, *kildár*, *kirru*, PB.

A large deciduous shrub or small tree of the North-West Himalaya from the Indus to the Ravi, between 2,800 and 8,500 feet.

Wood light pinkish-red, hard, heavy, very close-grained. Weight 56 lbs. per cubic foot.

Wood highly esteemed for walking-sticks, tent pegs, charpoys, and rice pestles, also for native bows for throwing pellets. But its chief use is in basket-work and in the making of bridges over the Himalayan rivers. The twigs are very tough and flexible, and are twisted together into thick ropes, often 300 feet long. The bridges consist of one large rope to walk on and two smaller side ropes, one for each hand, with smaller ropes connecting the hand ropes with the foot rope.

		lbs.
H 3178.	Dungagalli, Hazara, 6,000 feet	...
H 933.	Hazara, Punjab, 6,000 feet	56
H 905.	Upper Chenab, Punjab	...

## PAVETTA.

767 *Pavetta tomentosa*, Smith, RUBIACEÆ.

Syn.—*IXORA TOMENTOSA*, Roxb. (*Fl. Ind.*, i, 386.)

Vern.—*Padera*, KUMAUN; *Jái*, BENG.; *Sikriba*, *sikérup*, KOL.; *Burhi*, KHARWAR; *Sundók*, LEPCHA; *Papiri*, *pápatta*, *nam-pápúta*, TEL.

A large shrub of the sub-Himalayan tract from the Ganges eastwards, ascending to 4,000 feet, Bengal, South India, and Burma.

Wood light brown, hard, close-grained. Weight 59 lbs.

		lbs.
O 3086.	Gonda, Oudh	59

## PAYENA.

768 *Payena lucida*, DC., SAPOTACEÆ.

Syn.—*CERATOPHORUS WIGHTII*, Hassk.; *ISONANDRA POLYANDRA*, Wight. (*Icon. t.*, 1589.)

Vern.—*Dolu-kurta*, CACHAR.

An evergreen tree met with in Cachar and Tenasserim (?).

Wood red, hard. Weight 45 lbs. per cubic foot.

The wood is used for planking.

		lbs.
E 1275.	Cachar	45

## PENTACE.

769 *Pentace burmanica*, Kurz., TILIACEÆ.

Vern.—*Thitka*, *kathitka*, BURM.

A very large, tall tree of Burma.

Wood yellowish-red, shining, soft, even-grained, takes a good polish. Weight 42 lbs. on an average.

Now very largely used in Burma for boats, boxes, and other purposes for which a light wood is required. Large quantities are annually exported, and though a few years ago the wood was quite unknown, it is now well known, even in European markets. It is also cut up into thin planks and exported to Assam to make tea boxes.

					lbs.
B	281.	Burma (1867)	.	.	42
B	802.	Tharrawaddi, Burma	.	.	41
B	815.	Rangoon	.	.	43
B	1386.	Moulmein	.	.	41
B	3119.	Burma (1862)	.	.	42
B	2915.	Burma	.	.	...

### PENTAPYXIS.

**Pentapyxis stipulata**, *Hook. f.*, CAPRIFOLIACEÆ.

*Syn.*—*LONICERA STIPULATA*, *Hook. f. & Th. (in Journ. Linn. Soc. ii., 165.)*

*Vern.*—*Berikuru*, NEPAL.

A large shrub met with in the Sikkim Himalaya, from 6,000 to 10,000 feet, very common on hill-sides, cleared of forest, around Darjeeling.

Wood white, soft.

E 2856. Rangbúl, Darjeeling, 7,000 feet.

### PERSEA.

**Persea Nan-muh**, *O'iv.*, LAURACEÆ.

THE NAN-MUH TREE.

*Vern.*—

A tree of China and Japan.

The wood is soft to moderately hard, with a pleasant aromatic scent when fresh cut; even-grained, of an olive-brown colour, shining with a beautiful lustre. Weight 34 to 35 lbs. per cubic foot.

This is the wood used in China by persons of wealth and quality for coffins.

					lbs.
No.	3259,	Japan	.	.	34

B. 3705 (marked *Laurus Kyaisai*) 53 lbs. is probably a species of *Persea*.

Wood light olive-brown like the *Nan-muh*; moderately hard. Weight 53 lbs. per cubic foot.

### PHILADELPHUS.

**Philadelphus coronarius**, *Linn.*, SAXIFRAGEÆ.

*Vern.*—*Dalunchi, bhoj*, SIMLA.

A shrub met with in the Himalaya, from Kishtwar to Sikkim, from 6,000 to 10,000 feet. Often planted for ornament.

Wood soft, white, with large pith.

					lbs.
H	3038.	Nagkanda, Simla, 7,000 feet	.	.	44

PHILADELPHUS.

770

771

772

## PHŒNIX.

## PHLOGACANTHUS.

773 *Phlogacanthus thyrsoiflorus*, Nees., ACANTHACEÆ.

Vern.—*Sua, shechia*, NEPAL; *Sumcher*, LEPCHA; *Bashkah*, MECHI.

A large evergreen shrub found in the sub-Himalayan tract from Kumaun to Assam, Khásia Hills and Burma. Often cultivated, as it is a very handsome shrub with long spikes of flame-coloured flowers.

Wood white, moderately hard, close-grained. Weight 37 lbs. per cubic foot.

E 2410. Bamunpokri, Darjeeling Terai . . . 37

## PHŒBE.

774 *Phœbe attenuata*, Nees., LAURACEÆ.

Vern.—*Dudri*, NEPAL; *Lepchaphal*, DARJEELING; *Phani*, LEPCHA.

A large evergreen tree of Sikkim and Bhutan, from 4,000 to 8,000 feet, hills of Eastern Bengal.

Wood grey, turning darker on exposure, hard, even-grained. Weight 39 to 44 lbs. per cubic foot.

Much used at Darjeeling for building, for tea-boxes, and other purposes.

E 363. Ranghul, Darjeeling, 7,000 feet . . . lbs. 44

E 2416. Chuttuckpur Forest, Darjeeling, 6,000 feet . . . 39

E 3389. . .

775 *P. lanceolata*, Nees.

Syn.—*LAURUS LANCEOLARIA*, Roxb. (*Fl. Ind.*, ii, 309.)

Vern.—*Chan, chandra, badror, shalanghi*, PB.; *Haulia, dandorla, kawal, sun kawal, bilphari*, HIND.; *Dupatti*, MECHI; *Nuni ajhar*, GARO; *Sun kanwal*, KUMAUN.

A small evergreen tree found in the outer Himalaya from the Jumna to Bhutan, ascending to 6,000 feet, Khásia Hills, Sylhet, Burma, and the mountains of South India.

Wood white, hard, close-grained; it turns brown on exposure, and varies in colour in different localities. Weight 46 to 55 lbs. per cubic foot.

H 91. Bhajji, Simla, 4,000 feet . . . lbs. 46

E 2415. Chunbati, Darjeeling, 2,500 feet . . . 55

## PHŒNIX.

776 *Phoenix paludosa*, Roxb., PALMÆ.

Vern.—*Hintal, hital, golpatta*, BENG.; *Thinboun*, BURM.

A soboliferous, often gregarious, palm of the Sunderbans, Burma, and Andaman Islands.

Its leaves are used in the Sunderbans to make rough ropes for tying boats and logs; and for thatching.

777 *P. sylvestris*, Roxb.

TREE WILD DATE PALM.

Vern.—*Khajúr, khaji, salma, thalma, thakil*, HIND.; *Pedda eita*, TEL.; *Peria-eetcham*, TAM.; *Ichal, kullu*, KAN.; *Seindi*, BERAR; *Bouchand*, MAR.; *Sindi*, GOND.

A tree 30 to 40 feet high, wild and cultivated throughout India.

Wood light brown, the outer portion hard and durable. Weight 40 to 45 lbs. per cubic foot.

The wood is sometimes used for building, water tubes, and other purposes.

E 416. Sundarbans	lbs.
P 887. Multan	45
	...

### PHYLLANTHUS.

**Phyllanthus bicolor, Müll.-Arg., EUPHORBIACEÆ.**

**Vern.**—*Latikat, lakrikat*, NEPAL; *Kair, tetrikur*, LEPCHA.

An evergreen tree of Nepal, Sikkim, and Khásia Hills, ascending to 7,000 feet.

Wood red or reddish-grey, hard. Weight 37 to 47 lbs. per cubic foot.

E 685. Sepoydura forest, Darjeeling, 5,500 feet	lbs.
E 2433. Tukdah Forest, Darjeeling, 6,000 feet	37
	47

**P. Emblica, Linn.**

**Syn.**—*EMBLICA OFFICINALIS, Gaertn.*; *CICCA EMBLICA, Kurb (ii, 352.)*

**Vern.**—*Ambal, ambli*, PB.; *Daula, amla, aonla, amlika, aura, aola, aunra*, HIND.; *Aunla*, NEPAL.; *Suom*, LEPCHA; *Amla, ambolati, amulati*, BING.; *Ambari*, GARO; *Amluki*, ASS.; *Alá thanda*, CULIACK; *Nalli, milli, nalli, aunri, usir, lalla*, GOND; *Meral, Kól*; *Aunre*, KURKU; *Nelli, nellekai*, TAM.; *Omrka, usri, asereki*, TFL.; *Nelli, nilika*, KAN.; *Ohalu, gondhona*, URIYA; *Aonli*, MAR.; *Nelli, CINGH.*; *Shabju, tasha*, BURM.; *Anvala*, BOM.

A moderate sized deciduous tree met with in the dry forests of India and Burma.

Wood red, hard, close-grained, warps and splits in seasoning. No heartwood.

The wood is durable under water, and is used for well-work; also for agricultural implements, building, and furniture. It is also burned as fire-wood and makes good charcoal; chips of the wood are said to clear muddy water.

P 104. Bhajji, Simla, 3,000 feet	lbs.
P 438. Ajmere	56
O 252. Garhwal (1868)	...
O 539. Dehra Dún	49
E 580. Khookloong Forests, Darjeeling Terai	48
E 2432. Bamunpokri, Darjeeling Terai	56
C 1126. Ahiri Reserve, Central Provinces	48
C 2738. Moharli Reserve, Central Provinces	51
C 3539. Khurdha Forest, Orissa	56
C 841. Bairagarh Reserve, Berar	58
C 2774. Melghát, Berar	45
No. 61. Ceylon Collection	...
	56

**P. lanceolarius, Müll.-Arg.**

**Syn.**—*GLOCHIDION LANCEOLARIUM, Dals.*; *BRADLEIA LANCEOLARIA, (Roxb., Fl. Ind. iii. 697.)*

**Vern.**—*Anguti, bhauri*, BENG.; *Marang mala*, KOL; *Kalchua*, URIYA; *Bangikár*, NEPAL; *Fagiri*, LEPCHA; *Tsekoban*, MAGH; *Bhoma*, BOM.

A small tree of the sub-Himalayan tract, from Kumaun eastwards, Eastern Bengal, South India, and Burma.

PHYLLANTHUS.

778

779

780

## PIERIS.

Wood reddish-brown, moderately hard, durable. Weight about 56 lbs. per cubic foot.

		lbs.
C 3485.	Kolhán Forests, Singbhúm, Chota Nagpore.	...
C 3501.	Khurdha Forests, Orissa	...
C 3553.	" " "	56

781 *Phyllanthus reticulatus*, *Poiret.*

**Syn.**—*P. MULTIFLORUS*, *Roxb. (Fl. Ind. iii. 664)*; *CICCA RETICULATA*, *Kurz. (ii, 354.)*

**Vern.**—*Panjúle, mákhi*, HIND.; *Nella púrúduú, phulsar*, TEL.; *Welkyla*, CINGH.

A straggling shrub, common in most parts of India and Burma, especially along river banks.

Wood white or greyish-white, hard, close-grained.

E 3362. Dhuppuri, W. Dúars.

782 *P. Thomsoni*, *Müll.-Arg.*

**Vern.**—*Latikat*, NEPAL.

A small tree of Sikkim and the Khásia Hills.

Wood red, structure the same as that of *P. Emblica*. Weight 42 lbs. per cubic foot.

E 2434. Bainunpokri, Darjeeling Terai

lbs.

## PHYLLOSTACHYS.

783 *Phyllostachys bambusoides*, *Sieb. & Zucc.*, GRAMINEÆ.

A bamboo, met with in the Mishmi Hills.

(Specimens wanted.)

## PICRASMA.

784 *Picrasma javanica*, *Bl.*, SIMARUBÆ.

**Vern.**—*Thityooben*, BURM.

A moderate sized evergreen tree of Malacca, and according to *Kurz* frequent in the tropical forests from Martaban down to Tenasserim and the Andamans; and in those of the Pegu Yoma.

Wood yellowish-white, soft, perishable. Weight 27 lbs. per cubic foot.

		lbs.
B 1977.	Andamans (1866)	27

## PIERIS.

785 *Pieris ovalifolia*, *Don.*, ERICACEÆ.

**Syn.**—*ANDROMEDA OVALIFOLIA*, *Wall.*

**Vern.**—*Ayatta, eilan, ellal, arur, arwín, aira, rattankat, erana, yaria*, PE.; *Ayár*, HIND.; *Anjir, angiar, aigiri, jagguchal*, NEPAL; *Piasay*, BHUTIA; *Kangshior*, LEPCHA.

A small deciduous tree found in the outer Himalaya from the Indus to Assam, usually between 4,000 and 8,000 feet, the Khásia Hills and Hills of Martaban from 5,000 to 7,000 feet.

## PINUS.

Wood light reddish-brown, moderately hard, not durable, warps and shrinks very badly in season. Weight 41 lbs. per cubic foot. It is only used for fuel and charcoal.

			lbs.
H	17.	Simla, 7,000 feet	41
E	3325.	Darjeeling, 6,500 feet	...

## PINUS.

**Pinus excelsa, Wall., CONIFERE.**

786

**Vern.**—*Piuni*, AFG.; *Biār*, HAZARA; *Chil, chtr, chiltu, chitū, chīū*, KASHMIR to JAUNSAIR; *Chila*, GARHWAL; *Kail*, BEAS, SUTLEJ; *Lim*, CHAMBA, KUNAWAR; *Yara, yār, yiro*, KASHMIR; *Shomshing, limshing*, LAHOUL; *Raisalla, lamshing, byans*, KUMAUN; *Tongschi*, BHUTAN.

A large gregarious tree, generally of the Himalaya, between 6,000 and 10,000 feet, from the Indus to Bhutan, extending into the inner arid tract.

Heartwood distinct, red, moderately hard. It is very resinous and more durable than that of *P. longifolia*, but less so than *Deodar*. Weight from 26 to 33 lbs., average 30 lbs., per cubic foot. In this respect it ranks next to *Deodar*, and is preferred to that of *Chil* or the Firs.

It is used for house-building, shingles, water channels, wooden spades, and other implements; also for torches, and from it turpentine is prepared. It gives an excellent charcoal for iron smelting.

			lbs.
H	923.	Hazara, (7,000 feet)	29
H	901.	"	29
H	140.	Lahoul (about 10,000 feet)	26
H	609.	"	27
H	37.	Mashobra, Simla, 7,000 feet	33
H	2871.	Nagkanda, " 8,000 "	...
H	1403a	{ Punjab Hills, (Dr. Stewart, 1867) }	32
H	1403b		32
H	1404.		33
H	1407.		28
E	2463.	Chumbi Valley, Tibet, about 10,000 feet	30

**P. Gerardiana, Wall.**

787

## THE EDIBLE PINE.

**Vern.**—*Chilghosa, jalghosa*, AFG.; *Chiri, prita, mirri, galboja, galgoja*, CHENAB; *Kashit*, RAVI; *Ri, rhi*, KUNAWAR; *Kannuchi, koniūnchi, kaninachi, shangti*, W. TIBET. The seeds, *neosa*.

A moderate sized tree of the inner dry and arid North-West Himalaya, found in isolated areas of no great extent, generally between 6,000 and 10,000 feet, mountains of North Afghanistan and Kafiristan.

Heartwood yellowish-brown, hard, durable, very resinous. Weight 44 to 47 lbs. per cubic foot.

The wood is rarely used, as the tree is valued for its edible seeds; it is, however, sometimes hollowed out for water-courses, and is used for the hook which attaches the seat to the rope in a single-rope swing-bridge.

			lbs.
H	991.	Kunawar, Punjab, 9,000 feet	44
H	1405.	Chenab, " " (Stewart, 1867.)	47

**P. kasya, Royle.**

788

A large evergreen tree, often gregarious, met with in the Khásia Hills above 2,000 feet, higher hills of Chittagong and mountains between the Sittang and the Salween rivers in Burma above 3,000 feet.

**PIPTADE-  
NIA.**

Wood very resinous, heartwood red. Weight 38 lbs. per cubic foot.  
It is extensively used in the Khásia Hills for building and other purposes.

E 707.	Khásia Hills	.	.	.	.	.	38
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789 **Pinus longifolia**, *Roxb.*

### THE LONG-LEAVED PINE.

**Vern.**—*Nakhtar*,<sup>1</sup> AFG.; *Chil*, *chir dráb*, *chir*, PB.; *Gúla*, *thansa*, KANGRA; *Anander*, JHELAM; *Saral*, JAUNSAIR; *Chir*, *salla*, *sapín*, *kolón*, *kolán*, *koláin*, GARHWAL and KUMAUN.; *Dhúp*, OUDH; *Dhúp*, *sala dhúp*, *sala*, NEPAL; *Gniét*, LEPCHA; *Teadong*, BHUTIA.

A large gregarious tree of the outer and drier Himalayan slopes, met with as low down as 2,000 feet and ascending to 7,500 feet. From Afghanistan eastward to Sikkim and Bhutan.

Heartwood small, soft, reddish, not durable; it is attacked by insects and decays rapidly when exposed to wet; it is, however, easy to work. Weight 30 to 40 lbs. on an average for seasoned wood.

Extensively used in some localities in the hills for building, shingles, tea boxes, and the bottoms of boats. It gives large quantities of resin, more than any of the other Himalayan Pines, but the process is exhaustive. Brandis says : " The yield of an ordinary tree is 10 to 20 lbs. of resin the first, and about one-third of the quantity the second year, after which the tree either dies or is blown down." The bark is used as fuel for iron smelting. The wood is often made into charcoal.

*Chir* requires much light, and seedlings do not spring up under shade, but the natural reproduction is good, and should present no difficulty if fire and cattle are excluded from the cuttings.

		lbs.
H 602.	Tuttul Forest, Kangra . . . .	37
H 13.	Simla, 6,000 feet . . . .	39
H 93.	" " " " " " " "	39
O 3003.	Garhwal " (1874) . . . .	45
E 704.	Badamtam Forest, Darjeeling, 2,500 feet	45
E 2435.	Great Rangit Valley " , 2,000 feet	42
E 2436.	Darjeeling, 7,000 feet (planted).	

790 *P. Merkusii*, *Jungh.*

Vern.—*Tinyu-ben*, BURM.

A large tree met with in the tropical forests of Burma on the Thoun-gyeen river, associated with *Dipterocarpus tuberculatus*.

Heartwood yellowish-brown with dark streaks, moderately hard, exceedingly resinous. Structure similar to that of *P. Kasya*. \*Weight 51 lbs. per cubic foot.

The wood is sometimes brought to Moulmein for mast pieces, but the difficulties of land and water transport are very great, almost preventing its extraction at a profit.

**P 547. Thongyeen, Burma . . . . 51**

**PIPTADENIA.**

701 *Piptadenia oudhensis*, Brandis, LEGUMINOSÆ.

Vern.—*Gainti*, OUDH.

A moderate sized tree met with in the forests at the foot of the Nepal Hills, Gonda Division, Oudh.

Wood yellowish or reddish, close-grained, no heartwood, hard, durable.  
 U 3084. Gonda, Oudh.

## PITHECOLOBIUM.

## PIPTANTHUS.

**Piptanthus nepalensis, D Don., LEGUMINOSÆ.**

792

Vern.—*Banlaru*, SUTLEJ, *Shalgari*, KUMAUN.

A shrub of the Himalaya from the Sutlej to Bhutan above 7,000 feet. Has handsome, large, yellow flowers, and is sometimes planted for ornament in the hills and in Europe.

Wood white with an irregular grey heartwood.

H 3024.	Nagkanda, Simla, 9,000 feet	lbs.
E 3405.	Sandukpho, Darjeeling, 11,000 feet.	40

## PISTACIA.

**Pistacia integerrima, J. L. Stewart, ANACARDIACEÆ**

793

Vern.—*Kaka*, *Lakkar*, *kakrangche*, *kakring*, *kangar*, *tungu*, PB.; *Kakv-sing*, KUMAUN, *Shue*, *sarawan*, *marua*, AFG.

A large deciduous tree, met with on the Sulaiman and Salt Ranges, the outer North-Western Himalaya, extending eastward to Kumaun, altitude 6,500 feet.

Wood hard, close and even-grained, brown, beautifully mottled with yellow and dark veins, and takes a fine polish. The sapwood is liable to be attacked by insects, but the heartwood is durable, highly prized, and consequently often cut recklessly. Weight 54 lbs. per cubic foot.

The heartwood of mature trees is the best and most handsome wood of the North-West Himalaya for carving furniture and all kinds of ornamental work (*Brandis*).

Gamble says it is usually sold in the hill bazars, and particularly at Simla in the form of thick short planks.

H 6.	Julung, Simla, 4,000 feet	lbs.
H 11.	Komharsen, Simla, 6,000 feet	...
H 160	Hazara, Punjab (1866)	50
H 926	Hazara, Punjab	52
H 898.	Murree, Punjab, 7,000 feet	46
H 227	Garhwal (1868)	56
H 2930.	Simla, 6,000 feet	60
		63

## PITHECOLOBIUM.

**Pithecolobium dulce, Bth, LEGUMINOSÆ.**

794

Syn.—*INGA DULCIS*, Willd., *MIMOSA DULCIS*, Roxb (*Fl Ind*, ii, 555)

Vern.—*Dakhani babul*, HIND, *Karkapilly*, TAM, *Sime humase*, KAN., *Kway tanyeng* BURM

A tree introduced from Mexico, and commonly cultivated in India and Burma.

Heartwood red or reddish-brown, sapwood white. Weight 40 lbs. per cubic foot.

The tree coppices well, and is used as a hedge plant and for fuel.

O 3656. Saharanpur.

**P. Saman, Benih.**

795

THE UANGO OR RAIN TREE.

Syn.—*NIGA SAMAN*, Willd

A small low-branching tree introduced from Jamaica, extensively cultivated in Calcutta as an ornamental tree of rapid growth.



**PLECOSPERMUM.**

Sapwood white, heartwood brown, soft, perishable, and to judge by our specimen by no means so good as it has been reported to be. Weight 26 lbs. per cubic foot.

E 3711. R. B. Gardens, Calcutta . . . . . lbs.  
26

**PLANCHONIA.**

796

**Planchonia littoralis**, *Van Houtte*, MYRTACEÆ.

Syn.—*P. VALIDA*, *Blume* (*Kurz*, i, 500).

Vern.—*Bamwabay nee*, BURM.; *Baila dd*, AND.

A moderate sized evergreen tree, frequent in the evergreen coast forests of the Andaman Islands.

A valuable wood, which should be better known; it seasons well and takes a fine polish; it is reddish-brown, with yellow specks, very hard, close-grained. Weight about 60 lbs. per cubic foot.

B 514. Andaman Islands . . . . . lbs.  
B 2495. „ „ (*Home* 1874, No. 7, *Youaygyee*) 64  
61

**PLATANUS.**

797

**Platanus orientalis**, *Linn.*, PLATANACEÆ.

THE ORIENTAL PLANE TREE.

Vern.—*Chinâr*, PERS., AFG.; *Buin, buna, boin*, KASHMIR.

A large deciduous tree, cultivated in the North-West Himalaya east to the Sutlej, ascending to 8,300 feet in Ladak. Indigenous in Greece, Macedonia, Armenia and Northern Persia.

Wood white, hard, with a faint tinge of yellow or red. Weight about 40 lbs. per cubic foot.

It is used in Kashmir for boxes, trays, pen-cases, and other articles, which are lacquered and painted. It has a pretty grain and may be recommended for cabinet-work.

H 922. Hazara . . . . . lbs.  
41

**PLECOSPERMUM.**

798

**Plecosperrum spinosum**, *Trecul*, URTICACEÆ.

Vern.—*Mainakat-lara*, *maidat-lara*, NEPAL; *Gumbengfong*, MECHI; *Koriti*, TEL.

A large thorny shrub, met with on the Salt Range, in Rohilkhand, Nepal, Sikkim, South India, and Ceylon.

Wood greyish-white, with a small bright orange-yellow heartwood, which is very hard. In the heartwood the pores are filled with a yellow resinous substance. Weight about 50 lbs. per cubic foot.

It is used in the Darjeeling Terai to give a yellow dye.

O 3134. Dehra Dun . . . . . lbs.  
E 487. Khokloong Forest, Darjeeling Terai . . . . . 56  
E 2308. Darjeeling Terai . . . . . 45  
E 2448. Tukdah Forest, Darjeeling, 5,000 feet . . . . . 52  
47

## PODOCARPUS.

## PLECTOCOMIA.

**Plectocomia assamica, Griff., PALMÆ.**

Vern.—

A cane, met with in Upper Assam. It resembles *P. Khasyana*, and T. Anderson joins them both in one species.

(Specimens wanted.)

**P. himalayana, Griff.**Vern.—*Takri bet*, NEPAL; *Runool*, LEPCHA.

A cane met with in the Sikkim Hills at 4,000 to 7,000 feet altitude.

(Specimens wanted.)

**P. Khasyana, Griff.**

A cane of the Khásia Hills.

(Specimens wanted.)

**P. macrostachya, Kurz.**

A cane met with in the Tenasserim Hills.

(Specimens wanted.)

## PLECTRANTHUS.

**Plectranthus rugosus, Wall., VERBENACEÆ.**Vern.—*Khwangere*, TRANS-INDUS; *Itut*, SALT RANGE; *Bái*, JHELAM; *Soler*, KASHMIR; *Piumar*, *chúgu*, CHENAB; *Kot*, *siringri*, KAVI; *Pek*, *rosbang*, *chichri*, SUTLEJ.

A small shrub, common on dry hill-sides and rocks in the North-West Himalaya and Salt Range above 3,000 feet.

Wood grey, hard.

H 2840. Simla, 7,000 feet.

## PLECTRONIA.

**Plectronia didyma, & Hook. f., RUBIACEÆ.**Syn.—*CANTHIUM DIDYIMUM*, Gaertn. (*Roxb. Fl. Ind.*, i, 535.)Vern.—*Jor*, KOIL; *Tolan*, URIYA; *Neckanie*, *nalla balsu*, TAM., TEL.; *Abalu*, KAN.; *Arsál*, BOM.; *Poruwa*, CINGH.

A large shrub of South India, Ceylon, and Tenasserim.

Wood light brown, hard. Weight 57 lbs. per cubic foot.

Used for agricultural purposes.

No. 16. Salem Collection . . . . . lbs.

C 3481. Saranda Forests, Chota Nagpore. . . . . 57

## PODOCARPUS.

**Podocarpus bracteata, Bl., CONIFERÆ.**Syn.—*NAGEIA BRACATEATA*, Kurz.Vern.—*Jinari*, CACHAR; *Thitmin* (Prince of Woods), BURM.; *Welimadda*, AND.

A large evergreen tree of the Khásia Hills, Burma, and the Andaman Islands.

POLYAL-  
THIA.

Wood grey, moderately hard, of "very uniform grain and texture throughout. Weight about 40 lbs. per cubic foot.

The wood is used for oars, masts of boats, and for planking. It is greatly esteemed by the Burmese. Dr. Mason says: "It is used by carpenters for various purposes, and the Burmese have a superstition that the beams of balances should be made of it." Major Berdmore says it is used to avert evil by driving a peg of it into a house-post or boat.

E 1277.	Cachar	lbs.
B 508.	Andaman Islands	38
B 2265.	" "	37
	(Major Ford, 1866)	39
B 2556.	" "	41
	(Home, 1874, No. 10)	

806 *Podocarpus latifolia*, Wall.

Syn.—*NAGEIA LATIFOLIA*, Kurz.

Vern.—*Soplong*, KHASIA; *Nirambali*, TINNEVELLY; *Thitmin*, BURM.

A large evergreen tree, with grey aromatic wood, and structure similar to that of *P. bracteata*. Tropical forests of Martaban and Tenasserim Hills; Hills of Tinnevely, at 3,000 to 5,000 feet (*Beddome*); Khásia Hills and Eastern Bengal (*Parlatore*).

Weight about 33 lbs.

The wood is used for similar purposes to that of *P. bracteata*.

B 569.	Aronghoo, Burma	lbs.
		33

## POINCIANA.

807 *Poinciana elata*, Linn., LEGUMINOSÆ.

Vern.—*Padenarayan*, TAM.; *Sunkeswar*, TEL.; *Nirangi*, KAN.

A moderate-sized tree found in the forests of South India and the Western Peninsula, planted elsewhere. An ornamental tree frequently planted.

According to Skinner it has wood of a yellow colour, tolerably close and even-grained, easy to work and giving a smooth surface; warping slightly but not subject to crack. Weight 45 lbs. per cubic foot.

Well suited for cabinet work.

(*Specimens wanted.*)

808 *P. regia*, Bojer.

THE MASCARENE.

Vern.—

A moderate sized tree, native of Madagascar, introduced into India within the last 70 years and now found planted almost all over India; plentiful in Calcutta in gardens and on road-sides.

Kurz says the wood is white, soft, light, and loose-grained.

(*Specimens wanted.*)

## POLYALTHIA.

809 *Polyalthia cerasoides*, Benth. & Hook. f. ANONOCÆ.

Syn.—*UVARIA CERASOIDES*, (Roxb., Fl. Ind., ii, 666).

Vern.—*Hoom*, MAR.; *Chilka dádágá*, TEL.; *Nakulsi, málili*, TAM.

A large evergreen tree found in Behar, Eastern and Western Ghâts, Dekkan, Burma.

## POMETIA.

Wood olive-grey, moderately hard, close-grained. Weight 52 lbs. per cubic foot.

The wood is used for carpentry and in boat-building. It is much prized in Bombay?

C 997. Poona . . . . . lbs.  
52

***Polyalthia longifolia*, Bth. & Hook. f.**

THE INDIAN FIR OF MAST TREE.

Syn.—*GUATTERIA LONGIFOLIA*, Wall.; *UVARIA LONGIFOLIA*, Lam. (Roxb., *Fl. Ind.*, ii, 664).

Vern.—*Asok, debdari*, HIND.; *Assothi*, TAM.; *Asoká, devadaru*, TEL.; *Debdaru*, URIYA.

A large, erect, evergreen glabrous tree inhabiting the drier parts of Ceylon; cultivated throughout the hotter parts of India. It is commonly planted in avenues along roads in Bengal and South India.

Wood white, fairly close and even-grained, rather soft. Weight about 40 lbs. per cubic foot.

Roxburgh says it is deemed of little use. It might be found suitable for tea boxes, as also the wood of *P. simiarum*, Bth. & Hook., a large tree of Eastern Bengal and Burma, and *P. Jenkinsii*, Bth. & Hook f., which is found in Assam and Sylhet.

***P. suberosa*, Bth. & Hook. f.**

Syn.—*UVARIA SUBEROSA*, Roxb. (*Fl. Ind.*, ii, 667).

Vern.—*Barachali*, BENG.; *Banderhola*, ASS.; *Chilka durva*, TEL.

A small tree of Oudh, Bengal, and South India.

Wood close, tough, durable, resembling that of *P. cerasoides*. Weight 40 to 45 lbs. per cubic foot.

C 3483. Kolhán Forests, Singbhúm, Chota Nagpore.

## POLYGONUM.

***Polygonum molle*, Don., POLYGONÆ.**

Vern.—*Totnye, tuknu, patu-swa*, NEPAL.

An extremely common, often almost gregarious, and scandent or straggling shrub, found on the hills of Sikkim and Bhutan from 5,000 to 8,000 feet. There is some doubt about the name of this very common plant, but it is probably *Coccoloba Totnea*, Ham., in Don. *Prodr. Fl. Nep.* 74. It has the enlarged succulent calyx of *Coccoloba* round the fruit.

Wood reddish-white. Stems hollow.

E 2412. Rangbi, Darjeeling, 5,000 feet.

## POMETIA.

***Pometia tomentosa*, Bth. & Hook. f., SAPINDACEÆ.**

Syn.—*POMETIA EXIMIA*, Beddome (t. 157.)

Vern.—*Thabyay*, BURM.; *Badoh*, AND.

A large tree of the Eastern Peninsula, very common in the tropical forests of the Andamans; found in Malacca and the central province of Ceylon.

Heartwood red, coarse-grained. Weight 48 lbs. per cubic foot.

The *Flora of British India* states that the timber is useful.

B 1973. Andamans (1866) . . . . . lbs.  
48

## POPULUS.

## PONGAMIA.

814 *Pongamia glabra*, Vent., LEGUMINOSÆ.

Syn.—GALEDUPA INDICA, Lam. (Roxb., Fl. Ind., iii, 329.)

Vern.—*Karanj*, *papar*, HIND.; *Dalkaramcha*, *karanja*, BENG.; *Koranj*, *Urīya*; *Pongē*, TAM.; *Kanga*, *pungu*, *kaniga*, *ganuga*, TEL.; *Garanji*, GOND.; *Charr*, AJMERE; *Khawāri*, *karmuj*, SIRGUA; *Hūngay*, *pong*, KAN.; *Thinwin*, BURM.

A moderate sized tree, almost evergreen. Grows in the sub-Himalayan tract from the Ravi eastwards, ascending to 2,000 feet; Bengal, Burma, Central and South India. The tree is easily grown from cuttings.

Wood moderately hard, white, turning yellow on exposure. It is not durable, and is readily eaten by insects, but is improved by seasoning in water. Weight about 40 lbs. per cubic foot.

In Lower Bengal it is used for oil-mills and firewood; in South India for solid cart-wheels.

P	457.	Ajmere	lbs.
C	1133.	Ahri Reserve, Central Provinces	45
E	411.	Sundarbans	38
			43

## POPULUS,

815 *Populus balsamifera*, Linn., SALICINÆ.Vern.—*Phalsh*, *makkal*, *pakhshu*, *pakh*, *būt*, *kramal*, PB.; *Berfa*, *changma*, *yarpa*, *magkal*, *māhal*, W. TIBET.

A large tree of the inner arid Himalaya and Tibet, 8,000 to 14,000 feet. The leaves and the branches are full of balsamic juice, which also exudes from fresh cuts between the bark and the wood. (Gamble.)

Wood light grey, soft to moderately hard. Weight 32 lbs. per cubic foot.

The wood is grown for fuel in the inner arid Himalaya.

H	136.	Lahoul, about 9,000 feet	lbs.
			32

H	138.	Lahoul about 9,000 feet	lbs.
		resembles the above, but is of very fast growth.	30

816 *P. ciliata*, Wall.Vern.—*Safeda*, *bagnu*, *phalja*, *phlassu*, *fatis*, *paluck*, *phalsh*, *ban phrastu*, *dud phras*, *asān*, *sudti*, *rikkan*, *saki*, *pābe*, *chanūn*, *krammal*, *pahari pipal*, PB.; *Chelaun*, *chelūn*, SIMLA; *Garpipal*, KUMAUN; *Bangikat*, NEPAL; *Sungribong*, LEPCHA.

A large deciduous tree of the Himalaya from the Indus to Bhutan between 4,000 and 10,000 feet.

Wood grey or brownish-grey, shining, soft. Weight, on an average, 29½ lbs. per cubic foot.

The wood is used for water troughs.

H	3188.	Dungagalli, Hazara	lbs.
H	34.	Matiyana, Simla, 7,000 feet	...
H	2884.	Nagkanda, „ 8,000 „	35
H	770 <sup>c</sup>	Kalatop, Dalhousie, 7,000 feet	30
E	970.	Chumbi Valley, Tibet, about 8,000 feet	26
			27

**Populus euphratica, Olivier.**Vern.—*Bahan*, SIND, PB.; *Patit*, BRAHUI; *Hodung*, LADAK.

A large deciduous tree met with on the banks of the Indus in Sind, in the Upper Valley of the Indus, and its tributaries in Tibet.

Sapwood white, heartwood red, often nearly black near the centre, moderately hard, compact, even-grained. It is rather tough, and the heartwood is fairly durable. Weight 27 to 37 lbs.

The wood is largely used in Sind for building, turnery, lacquered boxes, seldom for fuel for the river steamers, as its heating powers are not great. On the Euphrates and Tigris it is used for planking and boat-building, and in the Punjab for the lining of wells. In Ladak it is much prized for fuel. It coppices well and bears pollarding long; coppice shoots are often used as rafters in Sind.

P 883. Multan	lbs.
P 1385. Indus bank, Central Sind	32
	37

**POUZOLZIA.****Pouzolzia viminea, Wedd., URTICACEÆ.**Vern.—*Chhota kúail*, NEPAL; *Kyinghi*, LEPCHA.

A shrub or small tree of Kumaun, Nepal, Sikkim, Eastern Bengal, Assam, and Chittagong, ascending to 5,000 feet.

Wood light, reddish-brown, hard, apt to warp. Weight 37 lbs. per cubic foot.

E 2447. Latpanchor, Darjeeling, 4,500 feet	lbs.
	37

**PREMNA.****Premna integrifolia, Linn., VERBENACEÆ.**Syn.—*P. serratifolia*, Linn. (*Roxb., Fl. Ind., iii, 77.*)Vern.—*Bakarcha*, GARHWAL; *Gannari*, OUDH; *Bhut-bhiravi*, BENG.; *Gineri*, NEPAL; *Munnay*, TAM.; *Ghebu-nelli*, *pinna-nelli*, TEL; *Chamari*, MAR; *Appel*, MAL.

A small deciduous tree met with in Oudh, Northern Bengal, South India, Ceylon, Tenasserim, and the Andaman Islands.

Wood white with purple streaks, moderately hard, close-grained; structure similar to that of *P. latifolia*, from which it is probably not specifically distinct. Weight, 35 lbs. per cubic foot.

The wood is used for firewood.

O 3082. Gonda, Oudh	lbs.
O 3092. Kheri	35
	...

**P. latifolia, Roxb.**Vern.—*Gineri*, NEPAL; *Michapong*, LEPCHA; *Dauli*, RAJBANSHI; *Peddanelle-kura*, TEL.; *Gondhona*, URIYA; *Middi*, CINGH.

A small deciduous tree of the sub-Himalayan tract from Kumaun eastwards, and of South India.

Wood grey with yellow, green, and purple streaks. Weight 38 to 43 lbs. per cubic foot.

Used by the hill tribes of Sikkim to obtain fire by friction, and in the Darjeeling Terai for firewood and charcoal.

E 621. Rakti Forest, Darjeeling Terai	lbs.
E 2399. Bamunpokri	38
	43

PREMNA.

817

818

819

820

## PRINSEPIA.

C. 3578 Khurdha Forests, Orissa (*Agabathu*, URIYA) is a species of *Premna*, near *P. latifolia*.

821 *Premna longifolia*, Roxb.

Syn.—*P. tomentosa*, Willd.

Vern.—*Gayheli*, NEPAL; *Sungna*, LEPCHA; *Dhaoli*, MECHI; *Gohora*, ASS.

An evergreen tree found in the Eastern sub-Himalayan tract of Bengal and Assam.

Wood greyish-brown, hard, close-grained. Weight 47 to 50 lbs. per cubic foot.

It is used for house-posts in Assam.

E 2400.	Sivoke, Darjeeling Terai	lbs.
E 1267.	Lakhimpur, Assam	47
		50

822 *P. mucronata*, Roxb.

Vern.—*Bankhar, gián*, PB.; *Bakar, bakarcha, basóta, agnián, tumari jhatela*, HIND.; *Agniú*, KUMAUN.

A small tree of the sub-Himalayan tract from the Chenab eastwards.

Wood moderately hard, light purple, structure the same as that of

*P. integrifolia*.

Wood a good fuel, used to obtain fire by friction.

O 3091. Kheri, Oudh.

823 *P. tomentosa*, Willd.

Vern.—*Nagal, naoru, naura*, TEL.; *Chambara*, MAR; *Ije*, KAN.; *Boosairu*, CINGH.; *Kyunnalin*, BURM.

A moderate sized deciduous tree of South India and Burma.

Wood light-brown, the colour of teak but lighter (hence the Burmese name), moderately hard, smooth, close and even-grained, seasons and polishes well. Weight from 40 to 54, generally about 52 lbs. per cubic foot.

It is used for weaving shuttles in Burma. It would do for turning and fancy work.

B 317.	Burma (1867)	lbs.
B 2718.	Tavoy ( <i>Wallich</i> , 1828)	54
B 2548.	Burma (1862)	53
B 1424.	Burma	51
		40

(Wood rough, grey, and lighter than the other specimens of *P. tomentosa*.)

## PRINSEPIA.

824 *Prinsepia utilis*, Royle., ROSACEÆ.

Vern.—*Bhekal, bekkra, karanga, cherara, dhatela, jhatela*, HIND.; *Gurinda*, HAZARA; *Tatwa, phulwara*, RAJAORI; *Jinti*, CHENAB; *Bekling*, KANAWAR.

A deciduous, thorny shrub, of the outer Himalaya, from Hazara to Bhutan, between 2,000 and 9,000 feet, and Khásia Hills.

Sapwood white; heartwood red, very hard and compact, close and even-grained, but much liable to split. Weight 69 lbs. per cubic foot.

The wood is mostly used for fuel, and occasionally for walking-sticks.

H 49.	Nagkanda, Simla, 8,000 feet	lbs.
H 2868.	" " "	69
		...

## PRUNUS.

## PRIOTROPIS.

**Priotropis cytisoides**, W. & A., LEGUMINOSÆ.

Vern.—

An erect branching shrub of the Eastern Himalaya and Burma.  
Wood white.

E 3311. Punkabari, Darjeeling, 3,000 feet

825

## PROSOPIS.

**Prosopis glandulosa**, Torr., LEGUMINOSÆ.

THE "MESQUIT OR ALGAROA OF TEXAS."

A small tree, native of the mountain regions of Western Texas. Successfully introduced into India by the Department of Agriculture and Commerce of the North-Western Provinces.

Wood exceedingly hard and durable, with a beautiful grain.

It is used for furniture, picket poles, and charcoal.

(Specimens wanted.)

826

**P. spicigera**, Linn.Syn.—*ADENANTHERA ACULEATA*, Rob. (Fl. Ind., ii., 371.)

Vern.—*Jhand, khâr*, PB.; *Kandi, kundi*, SIND.; *Chankra*, AGRA; *Khejra*, RAJPUTANA; *Saggri*, PERTABGARH; *Semru, hamir*, GUZ.; *Shemi, saunder*, MAR.; *Shami*, BENG.; *Somi*, MONGHYR; *Perani*, MADURA, URIYA; *Perumbe, vunne, jambu*, TAM.; *Chani*, TEL.

A moderate sized, deciduous, thorny tree, inhabiting the northern and southern dry zones, Punjab, Sindh, Rajputana, Guzerat, Bundelkhand and Dekkan. It is easily raised from seed and coppices well. It has an enormously long tap root: one specimen, of which pieces were sent to the Paris Exhibition of 1878, had a root 86 feet long, penetrating vertically to a depth of 64 feet.

Sapwood large, perishable; heartwood purplish-brown, extremely hard, tough, but not durable, liable to dry rot, and readily eaten by insects. Weight 50 to 60 lbs., generally about 58 lbs. per cubic foot.

It is used for building, carts, well curbs, furniture, and agricultural implements; but is chiefly valuable for fuel, as its heating power is very great. Brandis gives the results of experiment made at Karachi in May 1869, that 1,374 lbs. of its wood were consumed in evaporating 11.8 cubic feet of water per hour during 7 hours, the pressure of steam being kept at 27 lbs. per square inch, while of *Acacia arabica* wood 1,388 lbs., and of *Tamarix gallica* wood 1,627 lbs., were required for the same test. It is largely used for fuel for locomotives and steamers in the Punjab and Sind, and has been planted in the Punjab plantations.

827

P	882. Multán . . . . .	lbs.
P	939. . . . . (rootwood)	57
P	1380. Carokpo Forest, Hyderabad, Sind . . . . .	...
P	459. Ajmere (young tree) . . . . .	59
		37

## PRUNUS.

**Prunus acuminata**, Wall., ROSACEÆ.Vern.—*Lali*, NEPAL.

A tree of the Eastern Himalaya and Khásia Hills from 4,000 to 7,000 feet.

828



## PRUNUS.

Wood reddish-brown, with pretty wavy lustre on radial section.

E 3309. Sureil, Darjeeling, 6,000 feet.

E 3422. Rangirum, Darjeeling, 6,500 feet.

829 *Prunus armeniaca*, Linn.

## THE APRICOT.

Vern.—*Hári, gardalu, jaldaru, shiran, cheroli, cher kúsh, serkuji, shari*,  
PB.; *Iser*, KASHMIR; *Chúari, sardalu, khubani*, HIND.; *Mishmish*, PERS.

A moderate sized deciduous tree, cultivated in the North-Western Himalaya.

Sapwood white; heartwood greyish-brown, mottled with dark-brown streaks, moderately hard. Weight, 49 lbs. per cubic foot.

Wood handsome, used for various purposes in the Punjab Hills. In Lahoul and Upper Kanawar it is the chief firewood.

		lbs.
H 781.	Bathri, Chamba, 3,000 feet	49
H 20.	Madhan, Simla, 6,000 feet	49
H 2876.	Matiyána, Simla, 7,000 feet	...

830 *P. communis*, Huds., forma ALUCHA.

## THE PLUM.

Syn.—*P. ALOOCHA*, Royle.

Vern.—*Alúcha, alchi, shaft 'ilu, er, aor, gardalu*, PB.; *Bhotiya badám, Ladákhi 'lám*, ALMORA.

A moderate sized tree cultivated from Garhwal to Kashmir in the Western Himalaya.

Wood reddish-brown, hard, very close-grained, smooth to work, warps and splits. Weight 52 lbs. per cubic foot.

It is used in Kashmir for the skeleton of the so-called papier-mache boxes.

H 151.	Giri Valley, Simla, 4,000 feet	52
--------	--------------------------------	----

831 *P. martabanica*, Wall.

Vern.—*Thitmanku*, BURM.

A large evergreen tree rather frequent in the tropical and moister upper mixed forests of the Andamans, also Tenasserim.

Wood heavy, cross-grained, reddish coloured.

B 1975. Andamans, 1866.

832 *P. Padus*, Linn.

Vern.—*Páras, kalakat, gidar-dák, bart, süm, sam, sambu, jamu, chüle, dádla, krán*, PB.; *Jamana*, HIND.; *Likh-aru, arupatti*, NEPAL; *Hlo sa, hlot-kúng*, LECHA.

A moderate sized deciduous tree found in the Himalaya, from the Indus to Sikkim, between 4,000 and 10,000 feet.

Sapwood large, whitish. Heartwood reddish-brown, with an unpleasant smell, beautifully mottled on a radial section by the shining medullary rays, moderately hard. It has often a very handsome grain and deserves to be better known.

It is scarcely ever used.

		lbs.
H 916.	Hazara, 7,000 feet	38
H 22.	Matiyána, Simla, 7,000 feet	42
H 58.	Nagkanda, Simla, 8,000 feet	43
E 696.	Rangbúl Forest, Darjeeling, 7,000 feet	41
E 2369.	" " " "	42

The two Darjeeling specimens are perhaps *P. nepalensis*, Ser.; Hook., Fl. Ind., 316.

**Prunus Puddum, Roxb.**

Vern.—*Chamidri, amalghach, paja, pajia*, PB.; *Paqdam, paya*, HIND.; *Kongki*, LEPCHA.

A moderate sized (in Sikkim, a large) deciduous tree, wild in the Himalaya, from the Indus to Assam, between 2,500 and 7,000 feet, Khásia Hills.

Sapwood large, greenish, white. Heartwood reddish, beautifully mottled on a radial section by narrow, wavy, shining, medullary rays; fairly durable, easy to work, moderately hard, scent pleasant, resembling that of *P. Mahaleb*. Weight, the average of our specimens is 44 lbs. per cubic foot. Gamble says 40 to 45 lbs.

The wood is used in the Punjab Himalaya for walking-sticks; in Darjeeling occasionally for furniture. It deserves to be better known, and to be more extensively used, as at any rate in Sikkim it is common and reaches a large size.

			lbs.
H	46.	Nagkanda, Simla, 7,000 feet	52
H	234.	Garhwal Hills (1868)	46
E	683.	Sepoydura Forest, Darjeeling, 6,000 feet	42
E	2363.	Kurseong, Darjeeling, 5,000 feet	41
E	2364.	Tukdah Forest, Darjeeling, 5,000 feet	48
E	1447.	Mishmi Hills ( <i>Griffith</i> , 1866)	37
E	3594.	Tukdah Forest, Darjeeling, 5,000 feet	...

**PSEUDOSTACHYUM.****Pseudostachyum compactiflorum, Kurz., GRAMINEÆ.**

Vern.—

A bamboo growing on the hills of Martaban between 4,000 and 6,000 feet.

Stems 15 to 25 feet.

(Specimens wanted.)

**P. Helferi, Kurz.**

A gregarious bamboo found on the hills in Burma up to 3,000 feet. Stems 20 to 25 feet.

B 1318. Toungoo.

(Information and specimens wanted.)

**P. polymorphum, Munro.**

Vern.—*Purphiok, paphok*, LEPCHA; *Filing*, NEPAL.

A small bamboo found in Sikkim at 4,000 to 6,000 feet, and in Assam.

Stems green, soft.

Used for baskets, mats, and for tying the rafters, &c., of native houses and huts.

E 1340. Darjeeling Terai.

**PSIDIUM.****Psidium Guava, Raddi, MYRTACEÆ.**

THE GUAVA TREE.

Syn.—*P. POMIFERUM* and *P. PYRIFERUM*, Willd. (*Roxb., Fl. Ind. ii., 480.*)

Vern.—*Amrát, amrát, safriám*, HIND. & N. W. P. *Piyara*, BENG.; *Peru*, BOM.; *Amuk*, NEPAL.; *Modhuriam*, ASS.; *Segapu, kaoya*, TAM.; *Yama, coya*, TEL.; *Pela*, MAL.; *Sebe*, KAN.; *Gaya*, MAGH; *Malaka beng*, BURM.

A small evergreen tree, introduced from America, now widely cultivated, and in some parts of Bengal naturalised.

PSIDIUM.

833

834

835

836

837

TEROCAR-  
PUS.

Further information regarding this fact much required, as it seems unknown in the rest of India.

Wood whitish, moderately hard, even-grained. Skinner says that it works well and smoothly. Weight 42 to 47 lbs. per cubic foot.

It is used for wood-engraving and for spear handles and instruments. (Skinner.)

O 13½. Gonda, Oudh . . . . . lbs.  
42

## PTEROCARPUS.

838 *Pterocarpus indicus*, Willd., LEGUMINOSÆ.

ANDAMAN REDWOOD.

Syn.—P. DALBERGIOIDES, Roxb. (*Fl. Ind.*, iii, 236.)

Vern.—Padouk, BURM.; Chalanga-dá, AND.

A large and lofty tree found in Burma and the Andaman Islands. Home's valuation surveys in the Andamans gave an average of 7 mature trees per acre, which shews what a large quantity of the wood might be made available for export.

Sapwood small; heartwood dark-red, close-grained, moderately hard to hard, with a slight aromatic scent. It is durable and not attacked by white-ants. When thoroughly seasoned it is almost unaffected by the alternate dryness and moisture of the atmosphere. It seasons well, works well, and takes a very fine polish. The weights of specimens from Burma differ considerably from those from the Andamans, the latter being much lighter, the wood softer, and the colour rather lighter.

Used for furniture, carts, gun-carriages and other purposes. It is said to be the most useful wood in the Andamans, where it grows to an enormous size. Major Protheroe describes a tree felled in 1876 with a clear stem of 65 feet and a girth of 17 feet, and says that the wood of the root is closer-grained, darker-coloured, and more beautifully marked than that of the stem. The plank sent to the Paris Exhibition of 1878 measured nearly 4 feet across. In London, a portion of the same log from which the plank was cut fetched a price of £17-10s. per ton, or nearly Rs. 4 per cubic foot, while three logs lately sold in Calcutta fetched Rs. 60 per ton. Furniture made from Padouk wood and exhibited at Paris in 1878 by Messrs. Jackson and Graham was much admired. They reported on it as follows:—

"This is a straight-grown wood, with rather a coarse open grain, but without any strong figure or markings. When first cut it is of a reddish-brown colour, but it fades to much the same colour as teak—a wood it resembles very much, and it is about as hard, but much heavier. From the six specimen trees sent us, we imagine that it does not grow to any great size. The largest sent to us measured 16 feet long × 1 foot 7 inches × 1 foot 6 inches. We consider it suitable for all kinds of furniture. We manufactured it into a suite of morning-room furniture, which was exhibited at the Paris Exhibition, and which stood the test of a very hot summer in a most satisfactory manner."

	lbs.
B 548. Martaban . . . . .	60
B 2524. Pegu (1862) . . . . .	60
B 2708. Tavoy (Wallich, 1828) . . . . .	62
B 2716. " ( " " ) . . . . .	59
B 526. Andaman Islands . . . . .	46
B 2207. " " (1866) . . . . .	43
B 2494. " " (Home, 1874, No. 1) . . . . .	55

**Pterocarpus Marsupium, Roxb.**

**Vern.**—*Bija, bijasár, bijasál, piasal*, HIND.; *Hitun, lúd*, KOL.; *Beeya, persar*, KHARWAR; *Byasa, pyasál*, URIYA; *Dhorbeula, ásan*, MAR.; *Pedder, bijo*, GOND.; *Peddagi, yeanga, yeggi, yegisa, pedéga, pedéi*, TEL; *Vengai*, TAM.; *Benga, honnt*, KAN.; *Bijaira*, BIJERAGGARH; *Radat bera*, BHIL.

A large deciduous tree of Central and South India, extending northwards to the Banda District of the North-Western Provinces.

Sapwood small; heartwood brown, with darker streaks, very hard, durable, seasons well, and takes a fine polish; the heartwood is full of red gum resin and stains yellow when damp.

It is much used for door and window frames, posts and beams, furniture, agricultural implements, cart and boat building. It has also been used for sleepers. Out of 25 sleepers which had been down 7 to 8 years on the Mysore State Railway, there were found, when taken up, 9 good, 11 still serviceable, and 5 bad. It has also been used to a certain extent on the Holkar and Neemuch and other lines.

		lbs.
C 175.	Mandla, Central Provinces (1870)	47
C 1105.	Ahiri Reserve, Central Provinces	58
C 2741.	Moharli Reserve, Central Provinces	49
C 2918.	Seoni, Central Provinces	56
C 3542.	Khurdha Forest, Orissa	54
C 1238.	Gumsúr, Madras	56
W 742.	South Kanara	48
W 752.	" "	45
W 850.	" "	50
D 1061.	South Arcot	...
D 1086.	Madura	59
No. 39.	Salem Collection	52
C 3686.	Ramundag Reserves, Palamow, Chutia Nagpur.	

**P. santalinus, Linn. f.**

8

THE SANDERS RED OR RED SANDERS TREE, sometimes also called RED SANDAL WOOD, *Eng.*; *SANTALE ROUGE, Fr.*; *ROTHFS SANDELHOLZ, Ger.*; *SANDALO ROSE, It.*; *SANDELHOUT, Dan.*

**Vern.**—*Rakta-chandan*, BENG.; *Lalachondana*, BOM.; *Lal-chandun, undum*, HIND.; *DEC.*; *Shen-shandanum, seyapu chandanum*, TAM.; *Erragandhapu-chekka*, TEL.; *Kuchandana, tilapari, rajana, rakta chandana*, SANS.; *Sun, dul-surkh, undum*, PERS.; *Sundal-ahmer-undum*, ARAB.

A small tree of South India, chiefly in Cuddapah, North Arcot, Karnul and other dry forests; cultivated in Bengal and other parts of India.

Sapwood white; heartwood purplish-black, dark orange-red when fresh cut, extremely hard, the shavings giving a blood-red orange colour. Weight about 76 lbs. per cubic foot.

The wood is used as a dye-stuff, and is largely exported from Madras to other parts in India. It is chiefly used to "mark idols and the forehead in ceremonies." The colouring principle is called "*Santalin*." It is soluble in alcohol, and is sometimes used to dye cloth, imparting a pale ink colour. *Beddome* says it is used for building purposes and for turning. It is exported from Madras in billets and root pieces as a dye-wood.

		lbs.
D 2066.	Mysore	76
D 2917.	Madras ( <i>Brandis</i> )	...
D 1075.	North Arcot (with sapwood)	66
D 3151.	Cuddapah, Madras	77

PTEROS-  
PERMUM.

## PTEROSPERMUM.

841 *Pterospermum acerifolium*, Willd., STERCULIACEÆ.

Vern.—*Kanak-champa*, mns, BENG; *Hattipaula*, NEPAL; *Lauder*, MECHI; *Gail*, MAGH.; *Toungpetwoon*, BURM.

A tall tree found in the sub-Himalayan tracts from the Jumna eastwards, Bengal, Chittagong, and Burma. Often planted for ornament.

Sapwood white, heartwood soft to moderately hard, red. Weight average 47.5 lbs per cubic foot.

Wood, somewhat resembling *Thitka* (*Pentace burmanica*, Kurz), is worthy of notice, it is sometimes used for planking in Bengal.

	lbs.
E 593. Khookloong Forest, Darjeeling Terai . . .	44
E 3135. Sukna " " " . . .	48
B 2510. Burma (1862) . . . . .	51
E 3596. Sivoke forests, Darjeeling Terai . . .	46

842 *P. lanceæfolium*, Roxb.

Vern.—*Ban kalla*, BENG.

A large tree of the sub-Himalayan tract from the Jumna eastward; Eastern Bengal down to Chittagong.

Wood moderately hard, resembles the foregoing and *P. suberifolium* in structure.

O 3659. Saharanpur, N.-W. Provinces.

843 *P. semi-sagittatum*, Ham.

Vern.—*Nagye*, BURM; *Nwaleinbyeng*, MAGH.

A moderate sized tree with an irregularly-shaped, fluted stem; wild in Chittagong and Burma, sometimes planted in other parts of India.

Wood reddish-grey, moderately hard, durable, structure the same as that of *P. acerifolium*, but with more numerous pores and a few broader medullary rays. Weight 40 to 50 lbs per cubic foot.

	lbs.
B 2511. Burma (1862) . . . . .	40
B 2706. Tavoy (Wallich, 1828) . . . . .	50
B 1418. Burma (Vern. Hman), resembles the wood of this species.	

844 *P. suberifolium*, Lam.

Syn.—*P. CANESCENS*, Roxb (*Fl. Ind*, iii, 162)

Vern.—*Baelo*, *giringa*, URIYA; *Lolagu*, TEL; *Taddo*, TAM.; *Velenge*, CINGH.

A moderate sized tree of the Northern Circars and Carnatic.

Wood light red, moderately hard, tough, structure the same as that of *P. acerifolium*. Weight 36 to 40 lbs.

Used for building, carts and other purposes.

	lbs.
C 1250. Gumsúr . . . . .	38
C 1311. " . . . .	40
No. 91. Ceylon Collection . . . . .	36
C 3523 } Khurdha Forests, Orissa.	
C 3534 }	

## PYRULARIA.

## PUNICA.

**Punica Granatum, Linn., LYTHRACEÆ.**THE POMEGRANATE., *Eng.*; GRANADES, *Fr.*; GRANATS, *Germ.***Vern.**—*Anár, dárim, dāmú, HIND.*; *Anára, dālimba, dālimbe, BOM.*; *Dālim, KUMAUN*; *Madalaich-chedi, TAM.*; *Danimma-chettu, TEL.*; *Shajratúr rumman, ARAB.*; *Darakhtenar, PERS.*; *Tholl, BURM.*

A small tree, or a large shrub, wild in some portions of the North-Western Himalaya, cultivated throughout India.

Wood light-yellow, with a small, darker-coloured, irregularly shaped heartwood, compact and close-grained. Weight about 57 lbs. per cubic foot.

Wood not used, but might be tried as a substitute for boxwood.

P 106. Sutlej Valley, Punjab

lbs.

57

## PUTRANJIVA.

**Putranjiva Roxburghii, Wall., EUPHORBIACEÆ.****Syn.**—NAGEIA PUTRANJIVA, *Roxb. (Fl. Ind., iii, 766.)***Vern.**—*Putájan, PH.*; *Jia pu'a, joti, júti, pátra-jíva, patji, jivputrak, patigía, HIND.*; *Karupale, TAM.*; *Kadrajúvi, TEL.*; *Pong-klam, MAL.*; *Jewan-pútr, MAR.*; *Toukyap, BURM.*

A moderate sized evergreen tree with pendant branches, fr. with in the sub-Himalayan tract from the Chenab eastwards, Oudh, Bengal, Burma, and South India.

Wood grey, shining, moderately hard, close-grained. Weight 36.6 to 49 lbs.

The wood is sometimes used for tools and turning.

O 1459. Bahraich, Oudh

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lbs.

48

O 1477. Gonda, Oudh

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49

E 2469. Calcutta

.

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.

48

## PYGEUM.

**Pygeum zeylanicum, Gaertn., ROSACEÆ.****Vern.**—*Galmorre, galmora, BENG.*

A large tree of South India and Ceylon.

Wood close-grained, yellow, resembles *Eriobotrya* in structure. Weight, 65 lbs. per cubic foot.

It is used and esteemed as fuel for burning bricks or lime.

No. 28. Adrian Mendis' Ceylon collection, marked *Cryptocarya floribunda* and *Galmorre*, *CINGH.*, is probably this species.*(Specimens wanted.)*

## PYRULARIA.

**Pyricularia edulis, A. DC., SANTALACEÆ.****Vern.**—*Amphi, NEPAL*; *Safhyi, LEPCHA.*

A small or moderate sized thorny tree of Nepal, Sikkim and the Khásia Hills, from 4,000 to 5,000 feet.

845

846

847

848

## PYRUS.

Wood white, moderately hard, close-grained. Weight 47 to 50 lbs. per cubic foot.

It is used by Bhutias for dairy utensils.

		lbs.
E 2406.	Tukdāl, Darjeeling, 5,000 feet	47
E 698.	Rangbūl, Darjeeling, 7,000 feet	50
E 3468.	Darjeeling, 6,000 feet	...

## PYRUS.

849 *Pyrus baccata*, Linn. ROSACEÆ.

THE SIBERIAN CRAB.

Vern.—*Bang mehal*, *gwdlam*, HIND.; *Baror*, *lié*, *lhijo*, *liwar*, PB.

A small tree of the Himalaya, from the Indus to Bhutan, between 6,000 and 11,000 feet, and of the Khásia Hills.

Wood white, with pale-brown heartwood, warps considerably. Structure similar to that of *P. Pashia*, but medullary rays slightly broader. Weight 53 lbs. per cubic foot.

E 967.	Chumbi Valley, Tibet, about 10,000 feet	53
	(Specimens wanted.)	

850 *P. foliolosa*, Wall.

Vern.—*Kharsani*, NEPAL.

A small or small tree of the Eastern Himalaya, between 7,000 and 11,000 feet.

Wood white, with small, darker-coloured heartwood. Weight 45 lbs. per cubic foot.

E 378.	Tonglo, Darjeeling, 10,000 feet	45
E 3404.	Tonglo, Darjeeling, 9,000 feet (has well-marked medullary patches).	

851 *P. lanata*, Don.

Syn.—*P. ARIA*, Ehrh. (Brandis.)

Vern.—*Gún palos*, AFG.; *Doda*, *chola*, *chilana*, *maila*, *paltu*, *ban pála*, *kanghi*, *thánki*, *morphal*, *marpol*, PB.; *Galion*, *mauli*, *paltu*, *ban palti*, HIND.

A moderate sized deciduous tree of the Himalaya, from the Indus to Bhutan, between 5,000 and 10,000 feet.

Wood white, moderately hard, close and even-grained; seasons well. Weight 40 to 47 lbs. per cubic foot. Mathieu gives 46 to 58 lbs.

It might be useful for boxes and other purposes for which a close and even-grained wood is required.

H 64.	* Nagkanda, Simla, 8,000 feet	47
H 2887.	Nagkanda, Simla, 8,000 feet	40
H 3186.	Dungagalli, Hazara, 7,000 feet	...

852 *P. Pashia*, Ham.

Syn.—*P. VARIOLOSA*, Wall.

Vern.—*Tang*, *batangi*, *keint*, *shindar*, *katári*, *kithu*, *ku*, *shegul*, PB. *Mehal*, *mol*, HIND.; *Passi*, NEPAL; *Li*, LEPCHA.

A moderate-sized deciduous tree of the outer Himalaya, from the Indus to Bhutan, between 2,500 and 8,000 feet.

Heartwood light reddish-brown, hard, close and even-grained; cracks and warps. Weight 47 lbs. per cubic foot.

It is used for walking-sticks, combs, tobacco pipes, and various other purposes.

H 3185.	Dungagalli, Hazara, 7,000 feet	lbs.	...
H 23.	Madhan, Simla, 6,000 feet	47	
H 236.	Garhwal Hills (1868)	...	

### ***Pyrus rhamnoides*, Dcne.**

Vern.—

A tree of the Sikkim Himalaya between 7,000 and 9,000 feet.  
Wood moderately hard and close-grained.

E 3403.	Darjeeling	lbs.	...
(Specimens and vernacular names wanted.)			

### ***P. ursina*, Wall.**

Syn.—*P. foliolosa*, Wall. *Hook. Fl. Ind.*, ii, 376 (in part).

Vern.—*Súlia, húlia*, PB.; *Wampu litsi*, LAHOUL.

A small tree of the Himalaya, from the Indus to Sikkim, between 6,000 and 12,000 feet.

Wood white, with a small, brown heartwood. Structure similar to that of *P. foliolosa*. Weight 54 lbs. per cubic foot.

H 134.	Lahoul, 10,000 feet	lbs.	...
H 3020.	Hattu, Simla, 10,000 feet	54	

### ***P. vestita*, Wall.**

Syn.—*P. LANATA*, Don.

Vern.—*Mayhell, guhor*, NEPAL; *Singka*, BHUTIA.

A deciduous tree of the Eastern Himalaya, between 8,000 and 10,000 feet.

Wood reddish with brown streaks, moderately hard. Weight 44 lbs. per cubic foot.

E 380.	Tonglo, Darjeeling, 10,000 feet	lbs.	44
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## **QUERCUS.**

### ***Quercus acuminata*, Roxb., CUPULIFERÆ.**

Vern.—*Sann, prkaula*, NEPAL; *Kanta, gola, batana*, CHITTAGONG.

An evergreen tree met with in the Eastern Himalaya, Khásia Hills, and down to Chittagong, ascending to 6,000 feet.

Wood light-red, very hard. Weight about 55 lbs. per cubic foot.

The tree coppices well and is very good for firewood.

E 2456.	Tukdah Forest, Darjeeling, 5,500 feet	lbs.	43
E 3333.	Birch Hill Park, Darjeeling, 6,500 feet	55	
E 3384.	Darjeeling, 6,500 feet	..	..

### ***Q. annulata*, Smilh.**

Syn.—*Q. PHULLATA*, Don.

- Vern.—*Barán, brén, barín, banni, imbri, indri*, PB.; *Pharonj, phaná, phaliant, inai*, N.-W. P; *Phalat*, NEPAL; *Siri*, LEPCHA.

A large evergreen tree found in the valleys of the outer Himalaya, ascending to 6,000 feet, Garhwal, in Kumaun, Nepal, Sikkim (6,000 to 9,000 feet), Bhutan and Khásia Hills.

QUERCUS.

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## CERUS.

Wood grey or greyish-brown, very hard, warps and cracks; a handsome, markedly mottled wood, polishes well. Weight 60 lbs. per cubic foot, the average of seven specimens.

It is not much esteemed in the North-West Himalaya; in Darjeeling it is used for the same purposes as *Q. lamellosa*, but is not considered so good as that species.

		lbs.
H 97.	Hazara, 6,000 feet . . . .	55
H 90.	Bhajji, Simla, 4,000 feet . . . .	62
H 423.	Raulagrad, Chakrata, 6,500 feet . . . .	57
E 433.	Rangbúl, Darjeeling, 7,000 feet . . . .	60
E 2451.	" " " " . . . .	69
E 1439.	Mishmi Hills ( <i>Griffith</i> , 1836) . . . .	59
E 1443.	" " " " . . . .	58
E 3609.	Darjeeling . . . .	...

858 *Quercus dilatata*, Lindl.

Vern.—*Záih*, KAFIRISTAN; *Bán, banji, banchar, barachar, baráin, banni, paráungi, chora, káli ring, máru, máur, moru, marghang, karsh*, PB.; *Moru, tilangsa, kilonj, tilonj, timsha*, N.-W. P.

A large tree met with in Afghanistan, Sulaiman Range, and North-West Himalaya, between 7,000 and 9,000 feet. Forests of this tree almost pure exist near Simla, but the trees are generally spoiled by excessive lopping. The tree coppices well.

Heartwood reddish-grey, with darker streaks, very hard, seasons well, is durable, and does not warp much. Weight 61 lbs. per cubic foot.

It is used for building, for agricultural implements and jampan poles.

		lbs.
H 935.	Hazara, 8,000 feet . . . .	61
H 4.	Mahasu, Simla, 8,000 feet . . . .	56
H 40.	" " " " . . . .	69
H 2845.	" " " " . . . .	58
H 2873.	Nagkanda, Simla, 9,000 feet . . . .	...
H 777.	Kalatop Forest, Punjab, 7,000 feet . . . .	...

859 *Q. fenestrata*, Roxb.

Vern.—*Kala chakma*, BENG.; *Patlé, katús*, NEPAL; *Kashiendúng*, LEPCHA; *Dingjing*, KHASIA; *Thitkya*, BURM.

A moderate sized tree of Eastern Himalaya, between 5,000 and 8,000 feet, Khásia Hills, Eastern Bengal and hills of Martaban\* and Upper Tenasserim.

Heartwood red, very hard. Weight about 56 lbs. per cubic foot.

Used for building and farm purposes in the Khásia Hills.

		lbs.
E 3338.	Shillong, Khásia Hills, 5,000 feet . . . .	...
B 552.	Martaban Hills . . . .	56

860 *Q. Griffithii*, Hook. f. & Th.

Vern.—*Dingim*, KHASIA.

A large deciduous tree found in the Khásia Hills at 5,000 to 6,000 feet.

Wood brown, very hard, closely resembling that of the English oak.

The timber is much used in the Khásia Hills for building and other purposes.

		lbs.
E 3337.	Shillong, Khásia Hills, 5,000 feet . . . .	...

**Quercus Ilex, Linn.**

THE HOLM OAK.

Syn.—*Q. BALLOT, Griff.*; *Q. BALOOTA, Desf.*Vern.—*Charrei, serei, balút, AFG.*; *Sperchorei, pargái, kharanja, TRANS-INDUS*; *Chúr, keharsu, kharen irri, yáru, heru, ban, bré, brekche, PB.*

A moderate sized evergreen tree, met with in Afghanistan, Sulaiman Range, arid tracts of the inner Himalaya, generally between 3,000 and 8,500 feet, westward to Southern Europe.

Heartwood red or reddish-brown, very hard, durable. It warps and twists, but when well seasoned it works admirably and takes a fine polish. Weight generally between 60 and 70 lbs. per cubic foot.

It is largely used for tool handles, and pieces are brought from the Sulaiman Range for that purpose. It is also used for agricultural implements, and yields good fuel and charcoal.

H 903.	Upper Sulej Valley, 8,000 feet	lbs.
H 953.	"	62
H 1406.	Sulaiman Range (Stewart, 1867)	68
No. 2978.	Dalmatia	54
		...

**Q. incana, Roxb. (Fl. Ind., iii, 642.)**

THE GRFY OAK.

Vern.—*Vari, SALT RANGE*; *Rhin, HAZARA*; *Rinj, rin, JHELUM*; *Bán, banj, PB.*; *Banj, KUMAUN.*

A large, evergreen, gregarious tree found in the outer Himalaya from the Indus to Nepal, between 3,000 and 8,000 feet; it can be grown in the Punjab plains.

Heartwood very hard, reddish-brown, warps and splits. It is very difficult to season. Weight 64 lbs. per cubic foot.

It is used for building, for ploughs, is a good fuel, and makes good charcoal.

H 899.	Murree, 7,000 feet	lbs.
H 171.	Kangra, 6,000 feet (Stewart, 1867)	62
H 1.	Simla, 7,000 feet	...
H 24.	" "	67
H 2867.	" "	66
H 2.	Mahasu, Simla, 7,000 feet	...
		60

**Q. lamellosa, Smith.**Syn.—*Q. PANCILAMELLOSA, Alph. D.C.*; *Q. LAMELLATA, Roxb. (Fl. Ind., iii, 641)* (from Penang); *Q. IMBRICATA, Don.*Vern.—*Shalski, pharat-singhalí, budgrat, NEPAL*; *Bák, LEPCHA.*

A very large tree of Nepal, Sikkim, Bhutan, between 5,000 and 9,000 feet. It often attains 100 to 120 feet in height, with a girth of 20 to 30 feet, but old trees are very frequently hollow.

Heartwood greyish-brown, showing a beautiful silver grain on a radial section; does not warp to the same extent as *Q. incana* and *Q. annulata*. The wood is durable if not much exposed to wet. Weight 59 lbs. per cubic foot.

Used for beams and posts in the construction of houses and bridges, and for door-posts, window-frames, rafters, and other house-building purposes.

E 434.	Rangbúl Forest, Darjeeling, 7,500 feet	lbs.
E 2452.	" " " "	63
E 2453.	" " " "	59
E 1438.	Mishmi Hills (Griffith, 1836)	57
E 1448.	" " " "	57
		59

**QUERCUS.**

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## QUERCUS.

- 864** *Quercus lanceifolia*, Roxb. (*Fl. Ind.*, iii, 634.)  
 Syn.—*CASTANEA LANCEIFOLIA*, Kurz (ii, 482.)  
 Vern.—*Patlé katús*, NEPAL; *Siri*, LEPCHA; *Shingra*, *chauko*, GARO; *Bucklai*, ASS.; *Hrigori*, CACHAR; *Dingning*, KHASIA.  
 A small evergreen tree, met with in the sub-Himalayan tract, in Bengal and Chittagong, ascending to 4,000 feet.  
 Wood greyish-white, hard. Weight, 42 lbs. per cubic foot.  
 It is used for building in Assam.
- |         |                         |      |
|---------|-------------------------|------|
|         |                         | lbs. |
| E 1262. | Tezpur, Assam . . . . . | 42   |
- 865** *Q. lanuginosa*, Donn.  
 Syn.—*Q. LANATA*, Wall.  
 Vern.—*Ranj*, *rianj*, *rai banj*, KUMAUN; *Banga*, NEPAL.  
 A large, evergreen tree, met with at Naini Tál and a few other places in Kumaun, between 6,000 and 7,500 feet; gregarious, or associated with *Q. incana*.  
 Wood greyish-brown, very hard, warps and splits. Weight 55 lbs. per cubic foot.  
 It is used for firewood.
- |         |                                 |      |
|---------|---------------------------------|------|
|         |                                 | lbs. |
| H 2968. | Naini Tál, 7,000 feet . . . . . | 55   |
- 866** *Q. lappacea*, Roxb. (*Fl. Ind.*, iii, 637.)  
 Vern.—*Oolu chakma*, BENG.; *Thitcha*, BURM.  
 An evergreen tree of the Khásia Hills, Eastern Bengal, and Tenasserim.  
 Sapwood light-brown or yellow. Heartwood very hard, reddish. Weight about 56 lbs.
- |         |  |      |
|---------|--|------|
|         |  | lbs. |
| B 553.  | Upper Tenasserim . . . . .   | 56   |
| B 2715. | Brought by Wallich from Tavoy in 1828,<br>has a structure most resembling this species | 45   |
- 867** *Q. pachyphylla*, Kurz (in *Journ. As. Soc. Bengal*, vol. xliv., 197, 1875.)  
 Vern.—*Bara katús*, NEPAL; *Hlosiri*, LEPCHA.  
 A large evergreen tree, found in the higher ranges of the Sikkim Himalaya, above 7,000 feet, the common oak of the forests between 8,000 and 10,000 feet.  
 Wood grey, very hard, seasons well, does not warp or split; is more durable under exposure to damp than that of *Q. lamellosa* and *annulata*. Weight 50 lbs. per cubic foot.  
 It is largely used in Darjeeling for planking, palings, shingles, and other purposes.
- |         |  |      |
|---------|--|------|
|         |  | lbs. |
| E 364.  | Rangbul Forest, Darjeeling, 7,500 feet | 51   |
| E 2454. | " " " "                                | 48   |
| E 2455. | Rangirám " " "                         | 51   |
| E 3607. | Darjeeling . . . . .                   | ...  |
- 868** *Q. semecarpifolia*, Smith.  
 Vern.—*Barchar*, *jangal-ka-parkangi*, JHELAM; *Keru*, *khareu*, *krúí*, CHENAB, RAVI; *Karshu*, *karsúí*, *karsu*, *sáuí*, SUTLEJ to SARDA; *Ghesi*, *kasru*, NEPAL.  
 A large evergreen tree, found in Afghanistan, North-West Himalaya, between 8,000 and 10,000 feet, Nepal and Bhutan. "It forms vast forests

## RANDIA.

partly pure, partly mixed with the silver fir, above all other trees." (*Brandis' Vegetation and Country from Nagkanda to Pangi*).

Heartwood grey, often with a reddish tinge, very hard. Weight 53 to 54 lbs. per cubic foot.

Used for building, door-frames, bedsteads, carrying poles, helves, and ploughs; is a good firewood, and yields good charcoal. It coppices well.

H	39.	Mahasu, Simla, 9,000 feet	.	.	.	lbs.
H	72.	Nagkanda, Simla, 9,000 feet	.	.	.	54
H	2893.	" " "	.	.	.	53
			.	.	.	...

**Quercus serrata, Thunb.**

**Syn.**—*Q. POLYANTHA, Ldl.*

**Vern.**—*Dingrittiang, KHASIA.*

A moderate sized deciduous tree of the North-East Himalaya and Khasia Hills, from 3,000 to 5,000 feet.

Wood brown, very hard. This much resembles *Q. Griffithii* in structure, and also comes near that of the English oak.

It is used in Assam for building.

E 3339. Shillong, Assam, 5,000 feet.

**Q. spicata, Smith.**

**Syn.**—*Q. SQUAMATA, Roxb. (Fl. Ind., iii., 638.)*

**Vern.**—*Danwa, singali, phaco singali, arkaula, NEPAL; Bara chakma, BENG.; Kacheeng, LEPCHA; Sahu hingori, Ass.; Dingjing, KHASIA; Thitcha, BURM.*

A large evergreen tree of Nepal, Sikkim up to 5,000 feet, Eastern Bengal, Burma and Indian Archipelago. It coppices very freely and is often almost gregarious or mixed with chestnut, *Engelhardtia* and *Schima*.

Wood red, very hard. It is very durable and does not warp. Weight 58 lbs. per cubic foot.

It is used for building in Assam, and for charcoal in Darjeeling.

E	595.	Khookloong Forest, Darjeeling Terai	.	.	.	lbs.
E	1444.	Mishmi Hills ( <i>Griffith</i> , 1836)	.	.	.	56
E	1445.	" " " "	.	.	.	59
B	545.	Martaban Hills	.	.	.	55
			.	.	.	63

## RANDIA.

**Randia dumetorum, Lam., RUBIACEÆ.**

**Syn.**—*POSOQUERIA DUMETORUM, Willd.*

**Vern.**—*Mindla, mandkolla, arara, PB.; Mainphal, manyul, karhar, main, mainhri, manneul, arar, HIND.; Maidal, amuki, NEPAL; Gundrow, MECHI; Gurul, RAJBANSHI; Panji, LEPCHA; Portoho, KOL; Kharhar, ORAON; Pativa, URIYA; Madu, karray, TAM; Manda, TEL.; Gera, gelay, MAR.; Kuay, katul, GOND; Bhila, KURKU; Karé, KAN.*

A deciduous thorny shrub or small tree found throughout India, extending in the North-West outer Himalaya as far as the Beas.

Wood white or light-brown, compact, hard. Weight 55 lbs. per cubic foot.

• It is used for agricultural implements, fences and fuel.

O	262.	Garhwal (1868)	.	.	.	lbs.
O	1366.	Gonda, Oudh	.	.	.	54
O	1461.	Bahraich, Oudh	.	.	.	50
O	1488.	Kheri, Oudh	.	.	.	62
			.	.	.	54

## RHAMNUS.

		lbs.
C 2750.	Moharli Reserve, Central Provinces (young)	45
C 2799.	Melghát, Berar (young)	48
E 481.	Khooklóng forest, Darjeeling Terai	...
E 493.		
E 2386.	Bamunpokri, Darjeeling Terai	...

872 *Randia tetrasperma*, Bth. & Hook. f.Syn.—*GARDENIA TETRASPERMA*, Roxb. (*Fl. Ind.*, i, 709.)Vern.—*Bara garri*, *batya gingaru*, KUMAUN.

A small procumbent shrub of the Himalaya, from the Indus to Bhutan, ascending to 6,000 feet.

Wood white, very hard. Weight 56 lbs. per cubic foot.

		lbs.
H 157.	Simla, 6,000 feet	36
H 2821.	„ 5,000 „	...

873 *R. uliginosa*, DC.Syn.—*POSOQUERIA ULIGINOSA*, Roxb. (*Fl. Ind.*, i, 712.)Vern.—*Pindlu*, *pindar*, *panár*, *paniah*, *bharani*, *katil*, HIND.; *Piralo*, BENG.; *Maidal*, NEPAL; *Kumkum*, KOL.; *Kaurio*, PANCH MEHALS; *Pendra*, URIYA; *Katil*, *pender*, GOND; *Gangru*, *gangaru*, KURKU; *Nallaika*, *nalla kakisha*, TEL.; *Wagatta*, TAM.; *Kari*, *pendri*, KAN.; *Telphetra*, *panelra*, *phetra*, *pindra*, MAR.; *Taphél*, BHIL; *Mhani-ben*, *mhanpyoo*, BURM.

A small deciduous tree of the sub-Himalayan tract from the Jumna eastwards, Oudh, Bengal, Burma, Central and South India.

Wood whitish-grey, close-grained, hard, no heartwood. Weight 48 lbs. per cubic foot.

		lbs.
O 542.	Dehra Dun	48
O 1458.	Bahraich, Oudh	47
O 1487.	Kheri, Oudh	51
C 2782.	Melghát, Berar	...
C 1186.	Ahiri Reserve, Central Provinces	...
C 2756.	Moharli Reserve, Central Provinces	48
W 992.	North Kanara	46

## REPTONIA.

874 *Reptonia buxifolia*, A. DC., MYRSINÆ.Vern.—*Garar*, AFG.; *Gúrgará*, PB.

A large evergreen shrub or small tree met with in the Salt Range and hills Trans-Indus.

Wood light-brown, with irregular purplish-brown heartwood, very hard, heavy, close and even-grained. Weight 71 lbs. per cubic foot.

It is worthy of attention.

		lbs.
P 169.	Kohat	71
P 912.	Salt Range	...

## RHAMNUS.

875 *Rhamnus procumbens*, Edgew., RHAMNÆ.

A small procumbent shrub of Western Himalaya from Simla to Kumaun, between 7,000 and 8,000 feet.

Wood yellowish, with the same structure as that of *R. virgatus*.

H 2952. Naldehra, Simla, 7,000 feet.

RHIZO-  
PHORA.

876

**Rhamnus purpureus, Edgew.**

Vern.—*Bat sinjal, tunani sánani, tandra, tundhi, mijmarari, kunji, chaterni*, PB.

A large deciduous shrub of the North-West Himalaya from the Indus to Nepal, between 4,500 and 10,000 feet.

Wood brownish-grey, close-grained. Weight 41 lbs. per cubic foot.

H 70.	Mashobra, Simla, 7,000 feet	. . .	lbs.
H 2848.	Mahasu, Simla, 8,000 „	. . .	41

**R. triquetrus, Wall.**

877

Vern.—*Gudlei*, SIMLA; *Fagora, gardhan, phulla*, PB.; *Gogsa, ghant*, N. W. P.

A deciduous shrub or small tree, of the North-West Himalaya from the Jhelum to Nepal, between 3,000 and 6,000 feet.

Wood yellowish-white, moderately hard, close-grained.

H 75.	Mashobra, Simla, 7,000 feet.
H 2903.	Nagkanda, Simla, 8,000 feet.

**R. virgatus, Roxb. (Fl. Ind., i, 604.)**

878

Syn.—*R. DAHURICUS*, Pall.; *R. HIRSUTUS*, W. & A.

Vern.—*Phipai, dadár, tadru, setu pajja, kánji, mamrál, shomfol, reteon, gogsa, sindrol, mátni, nior, chatr, romúsk*, PB.; *Thalot, chetain*, SIMLA; *Tsúpo, mail*, TIBET; *SPITI*; *Chato, chedwala, chadua*, HIND.

A shrub or small tree, deciduous, found throughout the Himalaya and Western Ghâts.

Sapwood whitish, heartwood brown, very hard and close-grained.

Weight 56 lbs. per cubic foot.

Wood not used except as firewood.

H 79.	Mashobra, Simla, 7,000 feet	. . .	lbs.
H 2877.	Nagkanda, Simla, 8,000 „	. . .	57
H 3168.	Dungagalli, Hazara, 7,000 „	. . .	55
			...

## RHIZOPHORA.

**Rhizophora mucronata, Lamk., RHIZOPHOREÆ.**

879

## THE MANGROVE.

Syn.—*R. MANGLE*, Roxb. (Fl. Ind., ii, 459.)

Vern.—*Bhara*, BENG.; *Kamo*, SIND.; *Upoo-poma*, TEL.; *Byoo, byooma*, BURM.; *Bairada, jumuda*, AND.; *Kadol*, CINGH.

A small evergreen tree, found near muddy shores and tidal creeks of India, Burma, and the Andaman Islands.

Sapwood light-red; heartwood dark-red, extremely hard, splits and warps a little in seasoning. Weight 70.5 per cubic foot.

The wood is good, but is rarely used. It is durable, e.g., B. 2721 has been kept 50 years in Calcutta and is still quite sound.

B 2721.	Tavoy (Wallich, 1828)	. . .	lbs.
B 502.	Andaman Islands	. . .	69
B 2240.	„ „ (1866)	. . .	67
B 2273.	„ „	. . .	73
No. 9.	Ceylon Collection ( <i>Rhizophora</i> sp., Caddol)	. . .	73
No. 36.	„ <i>Rhizophora</i> sp., Hiri Kaddol)	. . .	63

## RHODODENDRON.

## RHODODENDRON.

880 *Rhododendron arboreum*, Sm., ERICACEÆ.Syn.—*R. PUNICEUM*, Roxb.

Vern.—*Chhán*, HAZARA; *Ardáwal*, JHELUM; *Mándúl*, CHENAB; *Chiu, áru*, RAVI; *Brás, broa, búrans, búránsh*, BEAS to the SARDA RIVER; *Brus*, KUMAUN; *Bhoráns, gurás, ghorás, toggú, lal gurás*, NEPAL; *Etok*, BHUTIA, LEPCHA; *Billi, poomaram*, NILGIRIS; *Ma-ratmal*, CINGH.

A small evergreen tree of the outer Himalaya from the Indus to Bhutan between 3,000 and 11,000 feet, hills of Southern India and Ceylon, and Karennee Hills in Burma.

Wood soft, reddish-white or reddish-brown, close and even-grained; seasons very badly, and is apt to warp and shrink. Weight 41.4 lbs. per cubic foot.

It is chiefly used for fuel and charcoal, but is also sometimes employed for building and for making dishes, in Sikkim for "kukri" handles, boxes, and other small articles, and on the Nilgiris for gun-stocks and posts.

		lbs.
H 3171.	Dungagalli, Hazara, 7,000 feet . . .	...
H 14.	Simla, 7,000 feet . . .	45
H 73.	Mashobra, Simla, 7,000 feet . . .	45
E 371.	Senchul forest, Darjeeling, 7,500 feet . . .	39
E 383.	Tonglo, Darjeeling, 10,000 feet . . .	39
E 2388.		
E 3706.	Tonglo, Darjeeling, 7,000 feet . . .	...

881 *R. argenteum*, Hook. f.Vern.—*Kali gurás, putlinga*, NEPAL; *Etok-amat*, LEPCHA.

An evergreen tree, met with in hills of Sikkim, common on the outer ranges round Darjeeling and Dumsong, from 6,000 to 10,000 feet.

Wood yellowish, with darker heartwood, shining, soft, close and even-grained; warps less than that of *R. arboreum*. Weight 39 lbs. per cubic foot.

		lbs.
E 373.	Tonglo, Darjeeling, 9,000 feet . . .	39

882 *R. barbatum*, Wall.Vern.—*Gurás, chimal*, NEPAL; *Kému*, BHUTIA.

A small evergreen tree of the Eastern Himalaya, from 8,000 to 11,000 feet.

Wood light-pinkish-red, shining. Weight 39 lbs. per cubic foot.

		lbs.
E 375.	Tonglo, Darjeeling, 10,000 feet . . .	39

883 *R. campanulatum*, Don.Vern.—*Gaggar, yurmi*, KASHMIR; *Sargar, shinwala*, RAVI; *Shargar*, BEAS; *Simrung*, SUTLEJ; *Chimul*, KUMAUN; *Cheriala, teotosa*, NEPAL.

An evergreen shrub, found in the inner Himalaya from the Indus to Nepal, between 9,500 and 14,000 feet; the outer ranges on Chor and Kedarkanta; and Sikkim at 11,000 feet. (*C. B. Clarke.*)

Wood light pinkish-red, moderately hard. Weight 39 lbs. per cubic foot.

		lbs.
H 121.	Jalari Pass, Seoraj, Kulu, 10,000 feet . . .	39
H 128.	Rotang Pass, Kulu, 13,000 feet . . .	...

## RHUS.

**Rhododendron cinnabarinum, Hook. f.**Vern.—*Bálu*, NEPAL; *Kema kachoong*, LEPCHA.

A large shrub, met with in the Sikkim Himalaya above 12,000 feet.

Wood grey, moderately hard, even-grained; warps. Weight 42 lbs. per cubic foot.

E 2958. Sandukpho, Darjeeling, 12,000 feet . . . lbs.

42

**R. Falconeri, Hook. f.**Vern.—*Kurlinga*, NEPAL; *Kégu*, BHUTIA.

A moderate sized evergreen tree, found in the Hills of Sikkim, especially the summit of Tonglo, at 10,000 feet.

Wood reddish-white, shining with a beautiful satiny lustre, takes a beautiful polish, is hard and does not warp. Weight 39 lbs. per cubic foot.

E 369. Tonglo, Darjeeling, 10,000 feet . . . lbs.

39

**R. fulgens, Hook. f.**Vern.—*Chimal*, NEPAL.

A small tree or large shrub of the Sikkim Himalaya, from 12,000 to 14,000 feet.

Wood grey, darker in the centre, moderately hard, even-grained. Weight 36 lbs. per cubic foot.

E 2957. Sandukpho, Darjeeling, 12,000 feet . . . lbs.

36

## RHUS.

**Rhus Cotinus, Linn., ANACARDIACEÆ.**Vern.—*Paán, bhán, manu, banthra, túng, titri*, PB.; *Túnga, tung, chaniát, ámi*, N.-W. P.

A shrub or small tree, deciduous, met with in the Sulaiman Range, North-West Himalaya to Kumaun, ascending to 6,000 feet.

Wood moderately hard; sapwood small, white; heartwood mottled, of a rich dark-yellow colour. Weight 56 lbs. per cubic foot.

Used in South Europe for inlaid and cabinet work. In the Himalaya the twigs are used for basket-making.

H 85. Bhajji, Simla, 6,000 feet . . . lbs.

56

H 3182. Dungagalli, Hazara . . .

**R. insignis, Hook. f.**Vern.—*Kagphulai*, NEPAL; *Serh*, LEPCHA.

A moderate sized tree found in Sikkim and the Khásia Hills, above 4,000 feet.

Wood grey, soft; heartwood yellowish-brown. Weight about 26 lbs. per cubic foot.

E 3104. } Darjeeling, 7,000 feet . . . lbs.

26

E 3105. } 27

**R. mysorensis, Heyn.**Vern.—*Dasarni*, AJMERE.

A small shrub, met with in the Sulaiman Range, Sind, Punjab, Rajputana, and the Dekkan.

884

885

886

887

888

889



## RHUS.

Wood hard, pinkish-yellow, close-grained, heavy.  
It is used only for fuel.

P 3231. Nagpahar Forest, Ajmere.

P 3248. Ajmere."

890 *Rhus punjabensis*, J. L. Stewart.

Vern.—*Titri, anthar, palai, choklu, kangar, kakkrein, dor, rashtu,*  
PB.

A moderate sized deciduous tree of the North-West Himalaya, ascending to 8,500 feet.

Wood consists of alternate layers of soft, porous spring wood and hard autumn wood. Heartwood yellowish-grey, with dark longitudinal streaks, moderately hard. Weight 34 lbs. per cubic foot.

H 19.	Matiyána, Simla, 8,000 feet	.	.	.	33
H 3051.	Kotgarh, Simla, 7,000 feet	.	.	.	35
H 3170.	Dungagalli, Hazara	.	.	.	...

891 *R. semialata*, Murray.

Syn.—*R. BUCKIAMELA*, Roxb. (*Fl. Ind.*, ii, 99); *R. JAVANICA*, Linn.

Vern.—*Tatri, titri, chechar, arkhar, arkol, kakri, dádla, kakkeran, mánsh, kulashing*, PB.; *Rashtu, SUTLEJ*; *Dakhmíla, dáswila*, N.-W. P.; *Bah-kiamela, bhagmili*, NEPAL; *Tukhril*, LEPCHA.

A moderate sized deciduous tree of the outer Himalaya from the Indus to Assam, ascending to 7,000 feet; Khasia Hills.

Wood soft, shining, grey with darker streaks. Weight about 27 lbs. per cubic foot.

It is not used.

H 89.	Bhaggi, Simla, 5,000 feet	.	.	.	26
H 2942.	Suni, Sutlej Valley, 3,000 feet	.	.	.	27
H 3079.	Annandale, Simla, 6,000 feet	.	.	.	...
E 2340.	Tukdah, Darjeeling, 5,000 feet	.	.	.	27

892 *R. succedanea*, Linn.

Syn.—*R. ACUMINATA*, DC.

Vern.—*Tatri, arkol, titar, lakhar, rikhal, shash, hurku*, PB.; *Ranimalai*, NEPAL; *Serhnyuk*, LEPCHA; *Dingkein*, KHASIA.

A small deciduous tree, met with in the Himalaya, from the Jhelum to Assam, and the Khasia Hills, from 2,000 to 8,000 feet.

Wood white, shining, soft, with small darker-coloured heartwood. Weight 32 lbs. per cubic foot.

It is not used.

H 2907.	Nagkanda, Simla, 7,000 feet	.	.	.	32
H 3167.	Dungagalli, Hazara	.	.	.	...

893 *R. Wallichii*, Hook. f.

Syn.—*R. VERNICIFERA*, DC.

Vern.—*Kambal, gadúmbal, rikhal, arkhar, arkol, lohása, harká*, PB.; *Akoria, kaunki, bhalián*, N.-W. P.; *Bhálaio, chosi*, NEPAL.

A small or moderate sized tree found in the North-West Himalaya, from 2,000 to 7,000 feet.

Sapwood white, soft; heartwood reddish-brown, yellow when dry. (*Brandus*.)

The wood is used in the Sutlej Valley for saw frames and axe handles.

H. 3078. Annandale, Simla, 6,000 feet.

## ROSA.

## RIBES.

**Ribes glaciale**, Wall., SAXIFRAGACEÆ.

894

Vern.—*Robhay*, BHUTIA.

A small shrub found in Himalaya, from Kashmir to Bhutan, between 7,000 and 11,000 feet.

Wood white, compact, moderately hard. Weight about 63 lbs.

			lbs.
H 3021.	}	Hattu, Simla, 10,000 feet	63
H 3022.			
H 2908.	}	Nagkanda, Simla, 9,000 feet	...
H 2912.			
M 3025.		Matiyána, Simla, 9,000 feet	...
E 973.		Chumbi Valley, Tibet, about 10,000 feet	68

## RICINUS.

**Ricinus communis**, Linn., EUPHORBIACEÆ.

895

THE CASTOR OIL PLANT OF PALMA CHRISTI.

Vern.—*Rand, arand, arendi, ind*, HIND.; *Aneru*, CHENAB; *Harnaui*, SALI RANGE; *Ind-rendi*, KUMAUN; *Orer*, NEPAL; *Raklop*, LEPCHA; *Sit-tamunuk*, TAM.; *Amadum, amdi, sittamindi*, TEL.; *Nerinda*, GOND; *Haralu*, KAN.; *Kyeksu*, BURM.

A large shrub or small tree, indigenous in Arabia and North Africa, cultivated throughout India, and often found run wild.

Wood white, soft, light, with large central pith.

E 3277. Naltanpara, Western Dúais.

## RODETIA.

**Rodetia amherstiana**, Mog., AMARANTACEÆ.

896

Syn.—*DEFRINGIA AMHERSTIANA*, Wall.Vern.—*Bilga*, KOTI.

A large straggling shrub of the North-West Himalaya and Burma.

Wood grey, soft. Weight 41 lbs. per cubic foot.

		lbs.
H 3097.	Koti, near Simla, 6,000 feet	41

## ROSA.

**Rosa macrophylla**, Lindl., ROSACEÆ.

897

Vern.—*Guláb, ban-guláb*, HIND.; *Tikjik*, CHENAB; *Akhiari*, RAVI; *Brevi, bankoi*, SIMLA.

A thorny shrub, met with in the Himalaya, from the Indus to Sikkim between 3,500 and 10,000 feet.

• Wood hard and compact. Weight 57 lbs. per cubic foot.

It makes good hedges.

		lbs.
H 50.	Nagkanda, Simla, 8,000 feet	...
H 2872.	" " "	55
H 2847.	Mahasu, Simla " "	59

## RUBUS.

- 898 *Rosa moschata*, Mill.  
 Vern.—*Kaji, kajei, karer, kwia, kwiala*, HIND.; *Phulwara, chal*, KASHMIR.  
 A large, thorny, climbing shrub, found in the North-West Himalaya, from Afghanistan to Nepal, ascending to 11,000 feet.  
 Wood moderately hard, porous.  
 H 1½. Bhajji, Simla, 5,000 feet.
- 999 *R. sericea*, Lindl.  
 A thorny shrub found in the Himalaya, from the Sutlej to Bhutan, from 9,000 to 14,000 feet.  
 Wood very hard, darkening on exposure.  
 E 2366. Suburkam, Darjeeling, 11,000 feet.

## ROYLEA.

- 900 *Roylea elegans*, Wall., LABIATÆ.  
 Vern.—*Kaur, kauri*, PB.; *Titpāti*, KUMAUN; *Patkarru*, HIND.  
 A shrub met with in the North-West Himalaya, from the Ravi to Nepal, up to 3,000 feet.  
 Wood white, hard. Weight 52 lbs. per cubic foot. lbs.  
 II 3045. Komharsen, Sutlej Valley, 4,000 feet . 52

## RUBUS.

- 901 *Rubus ellipticus*, Smith, ROSACEÆ.  
 Syn.—*R. flavus*, Ham.; *R. gowreephul*, Roxb. (*Fl. Ind.*, ii, 157.)  
 Vern.—*Akhi, ankri, kunuchi, guracha, pukana*, PB.; *Esar, hishalu, hisalu*, KUMAUN; *Tolu aselu, escalu, cesi*, NEPAL; *Kashyem*, LEPCHA.  
 A large thorny shrub, met with in the Himalaya, from the Indus to Bhutan, between 1,500 and 8,000 feet, the Khásia Hills and Assam.  
 Wood moderately hard, light-brown.  
 E 2367. Tukdah Forest, Darjeeling, 5,000 feet.
- 902 *R. lasiocarpus*, Smith.  
 Vern.—*Gunacha, pukana*, HAZARA; *Kandiári, lharmuch, súrganch*, KASHMIR; *Télanah*, CHENAB; *Nid, kalliachi*, BEAS; *Klenchu, galka*, SIMLA; *Kalga*, SUTLEJ; *Kalawar, kala hisalu*, KUMAUN; *Kala aselu*, NEPAL; *Kajutalam*, LEPCHA.  
 Met with in the Himalaya, Khásia Hills, Burma, South India, and Ceylon.  
 E 2368. Tukdah Forest, Darjeeling, 5,000 feet.
- 903 *R. lineatus*, Reinw.  
 Vern.—*Gempé aselu*, NEPAL.  
 A large thornless shrub found in the Sikkim Himalaya, 6,000 to 9,000 feet.  
 Wood yellowish-brown, in structure resembling that of *R. ellipticus*.  
 E 3307. Darjeeling, 7,000 feet.  
 E 3383. Senchal, Darjeeling, 8,000 feet.

## SALIX.

## RUMEX.

**Rumex hastatus**, Don, POLYGONACEÆ.

**Vern.**—*Katambal, khattimal*, JHELAM; *Ami*, CHENAB, RAVI; *Malorigha, amia*, BEAS; *Amlora*, SUTLEJ; *Almora*, KUMAUN.

An undershrub or shrub of the North-West Himalaya, from 2,500 to 9,000 feet, chiefly on rocks and dry hill-sides.

Wood light-red, moderately hard.

H 3048. Kot, Sutlej Valley, 2,500 feet.

904

## SACCOPETALUM.

**Saccopetalum tomentosum**, Hook. f. & Th., ANONACEÆ.

**Syn.**—*UVARIA TOMENTOSA*, Roxb.

**Vern.**—*Kirna, karri*, HIND.; *Hoom*, BOM.; *Chilkadūdū*, TEL.; *Thoskā*, GOND; *Humba*, KURKU; *Onē, hake hūmū*, KOL; *Hessare*, KAN.

A large tree with straight stem, found in Oudh, Nepal Terai, Gorakhpur, Behar, Central India, and Western Ghâts.

Wood olive-brown, moderately hard, smooth, close-grained; no heartwood. Weight 45 lbs. per cubic foot.

O	342.	Gorakhpur (1868)	lbs.
C	1109.	Ahiri Reserve, Central Provinces	45

905

## SAGERETIA.

**Sageretia Brandrethiana**, Aitch, RHAMNÆÆ.

**Vern.**—*Ganger, goher*, PB.; *Maimūna*, AFG.

A small deciduous shrub, met with in the Sulaiman and Salt Ranges, and North-West Himalaya between the Indus and the Jhelum.

Wood yellow, very hard, close-grained.

P 914. Salt Range, Punjab.

906

**S. theezans**, Brongn.

**Vern.**—*Dargola*, SIMLA; *Drangu, ankol, kauli, karūr, phomphli, kanda, brinkol, chaunsh, katrāin, thum, kūm*, PB.

A large spinescent shrub, found in the Salt and Sulaiman Ranges, Western Himalaya from Kashmir to Simla, from 3,000 to 8,000 feet.

Wood very hard, white, with irregular dark-coloured heartwood.

H	2946.	Suni, Sutlej Valley, 3,500 feet	lbs.
H	2954.	Naldehra, Simla, 7,000 "	...
H	3129.	Koti, Simla, 6,000 "	56

907

## SALIX.

**Salix babylonica**, Linn., SALICINÆÆ.

THE WEEPING WILLOW.

**Vern.**—*Bisa, bada, bed, katira, majnūn*, PB.; *Giār*, KASHMIR; *Tissi, bhoši*, NEPAL.

A tree with pendent branches, commonly grown for ornament in North India. Said by Stewart to be indigenous in the Sulaiman Range.

Wood white.

908

**SALIX.**

The branches are made into baskets and used for weirs and the protection of canal banks.

H 3060. Koti, Simla, 7,000 feet.

**909 Salix daphnoides, Vell.**

**Vern.**—*Bed, bidái, betsa, beli, bushan, bashal, bhail bhtul, mudanu, shún, tháil*, PB.; *Yár*, KASHMIR; *Changma, chámma, malchang, kalchang*, WEST TIBET; *Richang, roangching, chankar*, LAHOUL.

A shrub or tree of the North-West Himalaya, both on the outer ranges and in the inner arid tract. It extends to the Alps and the mountains of Central Europe.

Heartwood red, shining. Weight 33·5 lbs. per cubic foot.

The wood is used in the arid inner valleys for building jails, tubs, and tools. The twigs are used for baskets, twig bridges in Piti, Zanskar, and Ladak, and for building (willow wattle and daub) in Ladak.

			lbs.
H 2854.	Mahasu, Simla, 7,000 feet	. . .	...
H 47.	Kalashi, " 7,000 "	. . .	30
H 66.	Nagkanda " 8,000 "	. . .	34
H 2905.	" " 9,000 "	. . .	...
H 3034.	" " 8,000 "	. . .	37
H 3036.	" " 8,000 "	. . .	33
H 142.	Lahoul, about 9,000 "	. . .	34

**910 S. elegans, Wall.**

**Vern.**—*Bail, blail, bhains*, SIMLA.

A small shrub of the North-West Himalaya, from 7,000 to 10,000 feet, as far east as Nepal, Lahoul, Kunawar, as high as 11,500 feet.

Wood pinkish. Weight 33 lbs. per cubic foot.

		lbs.
H 2842.	Mahasu, Simla, 8,000 feet	. . . 33
H 2906.	Nagkanda, " 9,000 "	. . . ...

**911 S. fragilis, Linn.**

**Vern.**—*Tüchang*, LAHOUL.

A tree cultivated in Lahoul and Ladak.

Wood with reddish heartwood. Weight, 28 lbs. per cubic foot.

H 141, from Lahoul, is probably this species.

**912 S. sp. (It may be near viminalis.)**

A deciduous shrub.

Wood soft, close-grained, heartwood red. Weight 31 lbs. per cubic foot.

		lbs.
E 966.	Chumbi Valley, Tibet, about 8,000 feet "	. 31

**913 S. tetrasperma, Roxb. (Fl. Ind., iii, 753.)**

**Vern.**—*Bed, bent, baishi*, HIND.; *Laila, bains*, N.-W. INDIA; *Bis, beis, bilsa, bin, bidu, bakshel, magsher, safedar, badha*, PB.; *Yár*, KASHMIR; *Bilsa*, OUDH; *Pani jama*, BENG.; *Bhesh*, GARO; *Nachal*, KOL.; *Chéur*, KHARWAR; *Bhi*, ASS.; *Wallunj, bacha*, BOM.; *Niranji*, KAN.; *Momakha*, BURM.

A moderate sized deciduous tree found throughout India, on river banks and in moist places, and in the Himalayan valleys ascending to 6,000 feet.

Heartwood red, soft, porous, even-grained. Weight about 37 lbs. per cubic foot.

The wood is rarely used ; it has been used for gunpowder charcoal ; Mann says that in Assam it is used for posts and planks. The twigs are made into baskets.

		lbs.
H 155.	Sainj, Gori Valley . . . . .	35
H 99.	Bhajji, Sutlej Valley . . . . .	32
O 1485.	Kheri, Oudh . . . . .	32
O 1465.	Gonda, Oudh . . . . .	35
C 2813.	Melghát, Berar . . . . .	31
E 1256.	Tezpur, Assam . . . . .	35

### *Salix viminalis*, Linn.

Vern.—*Bitsu*, PB. ; *Kumanta*, LAHOUL.

A shrub of the inner arid Himalaya from the Jhelum to Sikkim (*S. Smithiana*, Willd.), from 5,000 to 9,000 feet, cultivated in Lahoul, Dras and Kunawar. Common throughout Europe in osier beds.

Wood white.

H 143. Lahoul, about 9,000 feet.

### *S. Wallichiana*, And.

Vern.—*Bwir*, PB. ; *Bhains*, *bangli*, *katgúli*, N.-W. P.

A large shrub, met with in Afghanistan, Kashmir, Himalaya eastwards to Bhutan, ascending to 9,000 feet.

Wood white or pinkish-white. Weight 32 lbs. per cubic foot.

The branches are made into baskets.

		lbs.
H 2910.	Nagkanda, Simla, 8,000 feet . . . . .	32
H 3035.	" " " " . . . . .	...

## SALVADORA.

### *Salvadora oleoides*, Linn., SALVADORACEÆ.

Vern.—*Kabbar*, *jhár*, *diár*, *mithidár*, SIND. ; *Jál*, *ván*, *váni*, *mitha van*, PB. ; *Jhal*, HIND. ; *Ughai*, *koku*, TAM. ; *Pilu*, MAR.

A large evergreen shrub or tree of the arid zone, Sind, and Punjab, often forming the greater part of the vegetation of the desert ; ascends to 3,000 feet in the Trans-Indus hills and to 2,400 feet in the Salt Range.

Wood light-red, moderately hard, with small, irregular, purple heartwood. Weight about 54 lbs. per cubic foot.

It is sometimes used for building and agricultural implements, Persian wheels, and the knee timbers of boats. Is a bad fuel, and leaves a great deal of ash.

		lbs.
P 942.	Multán (with heartwood) . . . . .	54
P 1382.	Sind (no heartwood) . . . . .	38

### *S. persica*, Linn.

THE TOOTH-BRUSH TREE.

Syn.—*S. WIGHTIANA*, *Beddome* (t. 247.)

Vern.—*Arák*, *irak*, ARAB. ; *Kabbar*, *kharidjar*, *pilu*, SIND ; *Jhál*, RAJ. ; *Kauri ván*, *kauri-jal*, *jhur*, *jhit*, PB. ; *Ópa*, *ughai*, TAM. ; *Waragunwenki*, *ghunia*, TEL. ; *Pilu*, MAR.

A small evergreen tree, wild in Sind, Rajputana, Guzrat, Konkan, and the Circars.

Wood white, soft. Weight about 46 lbs. per cubic foot.

It is very little used and is not even a good fuel.

		lbs.
P 1381.	Sind . . . . .	38

## SALVADORA.

914

915

916

917

**SANDORICUM.****SAMADERA.**

- 918
- Samadera indica**
- , Gaertn., SIMARUBEÆ.

Vern.—*Samadara*, CINGH.; *Kathai*, BURM.

A small tree of South India and Ceylon.

Wood light-yellow, soft, no heartwood. Weight 26 lbs. per cubic foot.

lbs.

No. 76. Ceylon Collection . . . . . 26

**SAMARA.**

- 919
- Samara robusta**
- , Benth. & Hook. f., MYRSINÆÆ.

Syn.—*EMBELIA ROBUSTA*, Roxb.Vern.—*Amti*, *ambat*, *barbatti*, *byebering*, BOM.; *Bebrang*, OUDH;  
*Kopadalli*, GOND.; *Bharangeli*, KURKU; *Kalay bogoti*, NEPAL; *Aip-  
mwaynway*, BURM.A large shrub or small tree found in the sub-Himalayan tract from the  
Jumna eastwards, Bengal, Behar, Western India, and Burma.

Wood reddish.

lbs.

O 2478. Gonda, Oudh . . . . . 37

- 920
- S. undulata**
- , Benth. & Hook. f.

Syn.—*CHORIPETALUM UNDULATUM*. A. DC.Vern.—*Amilpati*, NEPAL.

A climbing shrub of the North-East Himalaya, 3,000 to 6,000 feet.

Wood yellowish-white, moderately hard.

E 3302. Tukdah, Darjeeling, 5,000 feet.

**SAMBUCUS.**

- 921
- Sambucus javanica**
- , Reinw., CAPRIFOLIACEÆ.

Vern.—*Galeni*, NEPAL.A small tree met with in the Eastern Himalaya, from 4,000 to 8,000  
feet, and the Khásia Hills. Chiefly found in second growth forest.

Wood white, soft.

E 3133. Mangwa Forest, Darjeeling, 5,000 feet.

**SANDORICUM.**

- 922
- Sandoricum indicum**
- , Cav., MELIACEÆ.

Vern.—*Thitto*, BURM.

An evergreen tree of Burma, introduced in Southern India.

Sapwood grey; heartwood red, moderately hard, close-grained, takes  
a beautiful polish. Weight about 36 lbs. per cubic foot.

Used for carts and boat-building.

lbs.

B 804. Burma . . . . . 36

## SAPINDUS.

## SANTALUM.

**Santalum album, Linn., SANTALACEÆ.**

SANDALWOOD.

**Vern.**—*Chandan, chandal, sandal*, HIND.; *Gandha*, KAN.; *San-ta-ku*, BURM.

A small evergreen tree found in the dry region of South India. It grows naturally in the drier parts of Mysore, Coimbatore, and Salem districts, extending south to Madura and north to Kolhapur, generally at an elevation of from 2,000 to 3,000 feet, in poor soils, and seeking the protection of hedgerows and scrub jungles.

Sapwood white, scentless; heartwood yellowish-brown, strongly scented, very hard, very close-grained, and oily. Weight about 61.5 lbs per cubic foot.

The heartwood is used for carving, for incense and perfume. It is an important article of trade in India, and is largely exported to China and Arabia. It has been found to be well suited for engraving.

E 2489.	Botanic Gardens, Calcutta (from a tree which was blown down in the Cyclone of 1864)	lbs. 56
D 1209.	Mysore	71
D 2307.	"	60
D 3140.	"	60
D 1360.	Salem, Madras	61
No. 41.	Salem Collection	61

## SAPINDUS.

**Sapindus attenuatus, Wall., SAPINDACEÆ.**

**Syn.**—*S. RUBER, Kurz.*; *SCYTALIA RUBRA, Roxb.*

**Vern.**—*Achatta*, NEPAL; *Sirhootungchir*, LEPCHA; *Lal koi-páa*, SYLHET.

A shrub or small tree of the Eastern Himalaya, Assam, and Eastern Bengal, down to Chittagong.

Wood white, moderately hard.

E 3272. Western Dúars.

**S. detergens, Roxb.**

THE SOAPNUT OF NORTH INDIA.

**Syn.**—*S. MUKOROSI, Gaertn.*

**Vern.**—*Ritha, dodan, kanmar*, HIND.

A handsome deciduous tree, cultivated throughout North-West India and Bengal.

Wood light yellow, rough, moderately hard, compact, and close-grained. Weight 44 lbs. per cubic foot.

It is not used.

H 117.	Waziri Rupi, Kulu, 4,000 feet	lbs. 44
H 3050.	Kepu, Sutlej Valley, 2,000 "	...



**SASSA-  
FRAS.**

926

**Sapindus emarginatus, Vahl.**

THE SOAPNUT TREE.

**Syn.**—*S. trifoliatum*, Linn.**Vern.**—*Ritha*, HIND.; *Bara-ritha*, BENG.; *Mukta maya*, URIYA; *Konkúda*, TEL.; *Pounanga*, *puvandi*, TAM.; *Thalay marathu*, *antawala*, KAN.; *Arēta*, MAL.; *Puvella*, CINGH.

A large tree met with in Bengal, South India, and Ceylon, often cultivated.

Wood yellow, hard. Weight about 64 lbs. per cubic foot.

It is sometimes used for building and carts.

D 3209. Cuddapah, Madras.

B 2259 (51 lbs.) is a white, moderately hard wood sent by Major Ford from the Andamans in 1866; it perhaps belongs to this species.

**SARACA.**

927

**Saraca indica, Linn., LEGUMINOSÆ.****Syn.**—*Jonesia asosa*, Roxb.**Vern.**—*Asok*, HIND.; *Asoka*, BENG.; *Aseka*, *ati*, CUTTACK; *Diyaer tembela*, CINGH.; *Ashunkar*, KAN.; *Jassundi*, BOM.; *Thaw-ka-hpo*, BURM.

Found in Eastern Bengal, South India, Arracan, and Tenasserim.

Wood light, reddish-brown, soft. Weight 50 lbs. per cubic foot.

No. 23. Ceylon Collection . . . . . lbs.  
58**SARCOCOCCA.**

928

**Sarcococca saligna, Mull. Arg., EUPHORBIACÆ.****Vern.**—*Sukat sing*, KUMAUN; *Chilikat*, NEPAL.

A small evergreen shrub met with in Afghanistan, Himalaya at 4,000 to 7,000 feet, ascending in Sikkim to 9,000 feet, the Khásia Hills, Nilgiris, and Western Coast.

Wood white, moderately hard.

Sometimes used for walking-sticks.

H 2832. Simla, 7,000 feet.

**SARCOSPERMA.**

929

**Sarcosperma arborea, Hook. f., SAPOTACÆ.****Syn.**—*Sideroxylon arboreum*, Ham.**Vern.**—*Pahar lampati*, NEPAL; *Kulyat ya*, LEPCHA.

A large tree of the Eastern Himalaya.

Wood pink, moderately hard, rather light. Weight 30.5 lbs. per cubic foot.

Used in Sikkim to make canoes.

E 3316, Chenga forest, Darjeeling Terai, is probably this species.

**SASSAFRAS.**

930

**Sassafras officinale, Nees., LAURINÆ.**

Wood soft, porous, highly scented, preserving its odour a long time. Pores large to small.

(Specimens wanted.)

## SCHLEICHERA.

## SAURAUJA.

**Saurauja Griffithii**, *Dyer*, TERNSTROMIACEÆ.Vern.—*Gogen*, NEPAL; *Hlasipha*, LEPCHA.

A small tree, found in Sikkim and Assam.

**S. nepalensis**, *DC.*Vern.—*Gogina*, *goganda*, HIND.; *Gogen*, NEPAL; *Kasár*, LEPCHA.

A small tree of the outer Himalaya from the Jumna to Bhutan above 3,000 feet, and the Khásia Hills.

Wood light-pink, very soft, spongy; shrinks much. Weight 25 lbs. per cubic foot.

E 2321. Tukdah, Darjeeling, 5,000 feet . . . . . lbs. 25

## SCHIMA.

**Schima Noronhea**, *Rwdt.*, TENSTROMIACEÆ.Vern.—*Panna*, *thitya*, BURM.

An evergreen tree, met with in the Tenasserim and Martaban Hills.

Wood reddish-brown, moderately hard, close-grained. Weight 45 lbs. per cubic foot.

B 299. Burma (1867) . . . . . lbs. 45

**S. Wallichii**, *Choisy*.Syn.—*GORDONIA INTEGRIFOLIA*, *Roxb.*, (*Fl. Ind. ii. 572.*)Vern.—*Chilauni*, *gochassi*, NEPAL; *Makusa'*, HIND.; *Sumbrong*, LEPCHA; *Gugera*, GOALPARA; *Makriah chilauni*, *makusal*, ASS.; *Dingan*, KHASIA; *Boldak*, GARO; *Jam*, CACHAR.

A large evergreen tree found in Northern and Eastern Bengal, and Chittagong ascending to 5,000 feet.

Wood tough, red, moderately hard, cross-grained, warps and shrinks much in seasoning. Is durable in dry works when well ventilated. Weight about 45 lbs. per cubic foot.

It is used in Northern Bengal and Assam for many purposes, but chiefly for building. Many of the tea factories in Darjeeling have been built of it, and the Public Works Department have sometimes used it for bridges. Ma in states that in Assam it is used for planks and ordinary building purposes, and for canoes. As large quantities of the timber, well grown and straight, are available, it is to be hoped that it may be ere long in more extensive demand.

E 491.	Bamunpokri Forest, Darjeeling	lbs. 43
E 646.	Khooklong Forest, Darjeeling Terai	44
E 636.	Eastern Dúars, Assam	42
E 1449.	Mishmi Hills ( <i>Griffith</i> , 1836)	50

## SCHLEICHERA.

**Schleichera trijuga**, *Willd.*, SAPINDACEÆ.Vern.—*Kosum*, *gausam*, HIND.; *Rusam*, URIYA; *Pískú*, *may*, *roatanga*, TEL.; *Puvú*, *pé*, *pulachi*, *sotim-buriki*, TAM.; *Sagdi sagade*, *chakota*, *akota*, KAN.; *Chundala*, COORG; *Puvatti*, KADERS; *Kassumar*, *konam*, *kochar*, PANCH MEHALS; *Baru*, KOL; *Kusumb*, *pedugan*, MAR.; *Komur*, *pískú*, GOND; *Baru*, KURKU; *Gyoben*, BURM.; *Cóng*, *conghas*, CINGH.

A large deciduous tree, of the sub-Himalayan tract from the Sutlej eastwards, Central and South India, and Burma.

931

932

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**SCOLOPIA.**

Wood very hard, strong, and durable; sapwood whiteish; heartwood light reddish-brown. Weight about 70 lbs. per cubic foot.

Used for oil, rice, and sugar mills, and for agricultural implements and carts.

		lbs.
O	206. Garhwal (1868)	65
O	536. Dehra Dun	65
C	191. Mandla, Central Provinces (1870)	66
C	1110. Ahiri Reserve, Central Provinces	66
C	2769. Melghát, Berar	62
W	732. South Kanara	70
B	319. Burma (1867)	75
B	2515. " (1862)	72
No.	47. Ceylon Collection	57
C	3533. Khurda Forests, Orissa	65

**SCHREBERA.****936 Schrebera swietenioides, Roxb., OLEACEÆ.**

Vern.—*Moka, góki, ghant, gantha*, HIND.; *Patali, ghanta patali*, BANDEL-KHAND; *Jantia*, URIYA; *Makkam, mokob*, TEL.; *Mongalinga*, TAM.; *Ghattár*, BAIGAS; *Karindí, mokha, dhakka*, GOND.; *Jhán*, KURKU.; *Mokkak*, BHIL; *Kalgante*, COORG; *Thitswaylway*, BURM.

A deciduous tree, met with in Kumaun, Burma, Central and South India.

Wood brownish-grey, hard, close-grained, polishes well; durable, does not warp or split. No heartwood, but irregular masses of purple or claret-coloured wood in the centre, and scattered throughout the tree. Weight 56 lbs. per cubic foot.

Used for combs, weavers' beams, and turning.

		lbs.
C	829. Bairagarh Reserve, Berar	59
C	2772. Melghát, Berar	...
C	193. Mandla, Central Provinces (1870)	51
C	1108. Ahiri Reserve, Central Provinces	...
C	1410. Moharli " "	...
B	1413. Burma	59
B	3149. " (1862)	54

**SCOLOPIA.****937 Scolopia rhinantha, Clos., BIXINÆ.**

Verp.—

A tree of Malacca, Java, and Borneo.

Has a hard red wood, with a structure similar to that of *Flacourtia*. Weight 60 lbs. per cubic foot.

		lb.
B	1969. "Andamans (Kurz, 1866)	60

(Specimens and information wanted.)

## SECURINEGA.

## Securinega Leucopyrus, Müll. Arg., EUPHORBIAEÆ.

Syn.—PHYLLANTHUS LEUCOPYRUS, Roxb.; CICCIA LEUCOPYRUS, Kurz.

Vern.—*Pera pastawane*, AFG.; *Kakán, rithei, girthan, gargas, bháthi, bata, vanúthi, girk*, PB.; *Hartho, aintha*, N. W. P.; *Kiran*, SIND; *Challa mauta, vále manta*, C. P.; *Achal*, NEPAL.

A large shrub or small tree of the outer Himalaya, ascending to 5,000 feet, throughout India and Burma.

Wood pink, hard, close-grained.

It is only used as fuel.

E 3319. Pankabari, Darjeeling, 2,000 feet.

P 6282. Sitapahar Reserve, Chittagong.

## S. obovata, Müll. Arg.

Syn.—PHYLLANTHUS RETUSUS and VIROSUS, Roxb.; CICCIA OBOVATA, Kurz.

Vern.—*Dalme, dhúni, bakarcha, ghari, gwala, darin*, HIND.; *Iktibi*, LEPCHA; *Ukieng, thaka*, MECHI; *Kodarsi*, MAR.; *Korchí*, GOND; *Yae-chinya*, BURM.

A small tree found in the Sulaiman Range, sub-Himalayan tract and outer Himalaya, ascending to 5,000 feet, Eastern Bengal, Central and South India, and Burma.

Wood reddish-yellow, close-grained, durable. Weight 52 lbs. per cubic foot.

Used for agricultural implements.

H 2941. Jander, Sutlej Valley, 3,000 feet . . . lbs.

P 3247. Ajmeie . . . . . 52

## SEMECARPUS.

## Semecarpus Anacardium, Linn., f., ANACARDIAEÆ.

THE MARKING NUT TREE.

Vern.—*Bhilawa bheyla*, HIND.; *Bhalai*, NEPAL; *Bhila, bkelatuki*, BENG.; *Bhalla*, URIYA; *Kongki*, LEPCHA; *Loso*, KOL.; *Bhilwa*, HAIGAS; *Bakaraw*, GARO; *Kohka, biba*, GOND; *Shaing, shayrang*, TAM.; *Jiri, jidi, yella-fedi*, TEL.; *Gheru, kari ghera*, KAN.; *Bibwa, bibu*, MAR.; *Chyabeng*, BURM.

A deciduous tree of the Sub-Himalayan tract from the Sutlej eastwards, ascending to 3,500 feet; forests of India, extending to Chittagong but not to Burma.

Wood greyish-brown, often with yellow streaks, soft. It contains an acrid juice which causes swelling and irritation, and timber-cutters object to felling it. Weight 42 lbs per cubic foot.

It is sometimes used for charcoal.

C 1157. Ahiri Reserve, Central Provinces . . . lbs.

C 2746. Moharli " " . . . 44

E 578. Kookloong Forest, Darjeeling Terai . . . 40

E 627. Bamunpokri " " . . . 39

E 2341. " " " . . . 30

E 2341. " " " . . . 33

SEMECAR-  
PUS.

938

939

940

## SHOREA.

## SESBANIA.

941 *Sesbania ægyptiaca*, Pers., LEGUMINOSÆ.

Syn.—ÆSCHYNOMENE SESBAN, Roxb.

Vern.—*Jait, jhijan, janjhan, dhandiain*, HIND.; *Jayanti*, BENG.; *Saor sewri*, BERAR; *Shewari*, DECCAN; *Suiminta*, TEL.; *Yaythagye*, BURM.

A soft-wooded tree, 10 to 12 feet high, cultivated in many parts of India and Burma; wild in tropical Africa. It is commonly planted in Bengal as a hedge-plant, for which purpose its very quick growth renders it suitable. It is also sometimes grown to support the plantations of the betel pepper.

Wood white, extremely soft. Not durable. Weight 27 lbs. per cubic foot.

It is used to boil jaggery. Grown in Berar and the Deccan to furnish poles as a substitute for bamboo. Roxburgh says the wood is said to make the best gunpowder charcoal, and Kurz that it is good for children's toys.

C 870. Amraoti, Berar . . . . . lbs.  
27

942 *S. grandiflora*, Pers., LEGUMINOSÆ.

Syn.—ÆSCHYNOMENE GRANDIFLORA, Roxb.

Vern.—*Basna*, HIND.; *Buka, bak, agasta*, BENG.; *Bagfal*, SUNDARBANS; *Hadga, keta*, BERAR; *Aguti*, TAM.; *Avesi*, TEL.; *Agase*, KAN.; *Poukpan, pouktyoo*, BURM.

A short-lived, soft-wooded tree, cultivated in Southern India, Burma, and in the Ganges Doab, attaining 20 to 30 feet in height.

Wood white, soft, not durable. Weight 32 lbs. per cubic foot.

In Lower Bengal it is used for posts for native houses and for firewood (*Home*); in Berar and the Dekkan it is grown as a substitute for bamboo.

C 871. Amraoti, Berar . . . . . lbs.  
32

## SHOREA.

943 *Shorea gratissima*, Dyer, DIPTEROCARPEÆ.

Syn.—HOPEA GRATISSIMA, Wall.

Vern.—

Found in Tenasserim and Singapore.

Wood generally cross-grained. Heartwood brown, hard, or very hard.

944 *S. obtusa*, Wall.Vern.—*Thitya*, BURM.

A large tree of the Eng forests of Burma.

Heartwood the colour of sâl, very hard and durable. The wood of this tree is more even-grained than that of either sâl or *engyin*. Weight about 67 lbs. per cubic foot.

The wood is much valued on account of its durability; it is used for canoes and in building, and is valuable for tool-handles and planes.

B 555. Promé, Burma . . . . . lbs.  
B 556. " " . . . . . 64  
B 2973. " " . . . . . 52  
B 283. Burma (1867) . . . . . 56

## SHOREA.

945

**Shorea robusta, Gaertn.**

## THE SAL TREE.

**Vern.**—*Sál, sála, salwa, sákhu, sakher*, HIND.; *Sarjum*, KOL.; *Sargi, BHUMIJ; Sakwa, KHARWAR; Sekwa, ORAON; Shal, BENG.; Sakwa, NEPAL; Teturl, LEPCHA; Bolsal, GARO; Salwa, soringhi, URIYA; Koroh, OUDH; Sarei, rinjal, C. P.; Gúgal, TEL.*

A large gregarious tree, never quite leafless, of the north-east moist and intermediate zones; sub-Himalayan tract, from the Beas to Assam, eastern part of Central India, from the Ganges to the Godaverí, extending westward to the longitude of Mandla, with an outlying patch on and around the sandstone hills of the Pachmari Range.

Sapwood small, whiteish, not durable. Heartwood brown, finely streaked with dark lines; coarse-grained, hard, with a remarkably fibrous and cross-grained structure; the fibres of successive concentric strata in the wood do not run parallel but at oblique angles to each other, so that when the wood is dressed the fibres appear interlaced; does not season well. The inherent qualities of sál render it a very difficult wood to season; it warps and splits in drying, and even when thoroughly seasoned it absorbs moisture with avidity in wet weather, increasing 1-24th in bulk, and correspondingly in weight. During the process of seasoning it dries with great rapidity on the surface, while beneath it remains as wet as when first cut, and evaporation goes on afterwards with extreme slowness. The effect of this peculiarity is to cover the surface all over with superficial flaws from unequal shrinkage. With proper precautions, however, it can be made to dry slowly, and under these circumstances it has been found by numerous experiments that the ratio of drying is  $\frac{1}{2}$  of an inch annually all round the piece of wood. Sál, when once thoroughly seasoned, stands almost without a rival, as a timber, for strength, elasticity, and durability, which qualities it retains without being sensibly affected, for an immense length of time. Average weight of the seasoned sál, about 55 lbs. per cubic foot.

Sál is the timber which in Northern India is the most extensively used. It is in constant request for piles, beams, planking and railing of bridges; for beams, door and window-posts of houses; for gun-carriages; the body of carts (not the wheels, for which it is unsuited and for which sissú or even saj is better); and above all for railway sleepers, the yearly consumption of which reaches some lakhs of cubic feet. It is used for making canoes in the hills of Northern Bengal, where it is found, perhaps, of the largest size now available.

O	204.	Garhwal (1868)	53
O	290.	" (1874)	59
O	873.	Ramganga Valley, Kumaun, 1,800 feet	69
O	388.	Oudh	60
O	1215.	"	59
O	2980.	" (section of fire-damaged tree)	...
O	{ 1210. }	" (sapling sections)	...
O	{ 1211. }	"	...
O	1213.	" (sections of shoot)	...
O	1214.	" (butt ends)	...
C	173.	Mandla, C. P. (1871)	49
C	1235.	Gumsúr, Madras	64
E	497.	Sukna Hills, Darjeeling, 1,500 feet	58
E	702.	Tista Valley	64
E	2322.	Darjeeling Terai	54
E	3137.	Buxa Reserve, Western Dúars	62
E	3138.	"	61
E	635.	Eastern Dúars, Assam	53
E	1440.	Mishmi Hills (Griffith, 1836)	47

**SHOREA.****946****Shorea siamensis, Miq.****Syn.**—PENTACME SIAMENSIS, *Kurz* (i. 119.); PENTACME SUAVIS, *A.D.***Vern.**—*Engyin*, BURM.

A large deciduous tree found in the Eng forests of Burma.

Heartwood very hard, very heavy and cross-grained; in this respect similar to sâl, which it also resembles in colour. Weight about 55 lbs. per cubic foot.

The wood is much prized on account of its durability. It is used for house-building, bows and other purposes.

		lbs.
B 2507.	Burma (1862)	48
B 3127.	Kya-eng, Attaran Valley, Burma	69
B 2972.	Prome, Burma	45

**947****S. stellata, Dyer.****Syn.**—PARASHOREA STELLATA, *Kurz* (i. 117.)**Vern.**—*Koungmhoo*, BURM.

A very large evergreen tree of Burma.

Wood white, hard, rough. Weight about 50 lbs. per cubic foot.

It is used for canoes and in boat-building.

		lbs.
B 1944.	Tavoy, Burma	47
B 2481.	Tenasserim	50

**948****S. Talura, Roxb.****Syn.**—S. LACCIFERA, *Heyne*; VATICA LACCIFERA, *W. & A.***Vern.**—*Talura, talári*, TAM.; *Jalári*, TEL.; *Jalaranda*, KAN.

A large tree, met with in Mysore and the eastern districts of Madras.

Wood grey, very to extremely hard, smooth, with small dark-coloured irregularly-shaped heartwood. Weight about 70 lbs. per cubic foot.

It is much used for house-building, and is largely sent down to Madras for that purpose.

		lbs.
D 1056.	South Arcot	70
D 1092.	Madura	65

D 1092 has a smooth, yellow, even-grained wood, while D 1056 is grey with a dark brownish-red heartwood, but the structure of the two is identical.

**949****S. Tumbuggaia, Roxb.****Syn.**—VATICA TUMBUGGAIA, *W. & A.***Vern.**—*Cangú, congo, tambugai, tambugum*, TAM.; *Thambá, googgilapukarra*, TEL.; *Vanboga*, MAL.

A large tree of the intermediate and south dry zones, Cuddapah and North Arcot districts.

Wood smooth, harder than that of sâl, but similar in structure. Weight about 68 lbs. per cubic foot.

It is used for house-building, particularly for door-frames and posts, and for rafters.

		lbs.
D 1062.	Cuddapah	66
D 1078.	North Arcot	68

## SOYMIDA.

## SKIMMIA.

**Skimmia Laureola, Hook.,** *RUTACEÆ.*

Vern.—*Ner, barru*, PB.; *Nehar, gurl pata*, KUMAUN; *Chumlani*, NEPAL; *Timbuhyok*, LEPCHA.

An extremely aromatic shrub, found in the Himalaya from the Indus to Bhutan, from 5,000 to 11,000 feet, and in Afghanistan.

Wood white, soft, with distinct, white, concentric lines which may possibly be annual rings; has an aromatic scent when fresh cut. Weight 42 lbs. per cubic foot.

		lbs.
H 2846.	Mahasu, Simla, 8,000 feet	...
E 2330.	Tukdah, Darjeeling, 5,000 feet	42
E 2293.	Mahalderam, Darjeeling, 7,000 feet	...

## SOLANUM.

**Solanum verbascifolium, Linn.,** *SOLANACEÆ.*

Vern.—*Dursul*, NEPAL; *Sivor*, LEPCHA.

A small tree or large shrub of Northern and Eastern Bengal, and Burma.

Wood yellow, soft.

## SONNERATIA.

**Sonneratia acida, Linn. f.,** *LYTHRACEÆ.*

Vern.—*Orcha, archaká*, BENG.; *Tapoo, tamoo*, BURM.

A small evergreen tree, met with in the tidal creeks and littoral forests of India, Burma, and the Andamans.

Wood grey, soft, even-grained. Weight 31 lbs. per cubic foot.

It is said by *Beddome* to be used for models, and in Ceylon to be a good substitute for coal in steamers.

		lbs.
E 395.	Sundarbans	31
B 3379.	Kyaukphyoo, Arracan	42

**S. apetala, Buch.**

Vern.—*Keowra*, BENG.; *Kanpala*, BURM.

A moderate sized evergreen tree, met with in the tidal creeks and littoral forests of Bengal and Burma.

Sapwood grey; heartwood reddish-brown, moderately hard. Weight 44 lbs. per cubic foot.

The wood is said by *Kurz* to be good for house-building, packing-cases, &c.

		lbs.
E 399.	Sundarbans	44
E 3699.	Sundarbans (1882)	40

## SOYMIDA.

**Soymida febrifuga, Adr. Juss.,** *MELIACEÆ.*

INDIAN RED WOOD.

Syn.—*SWIETENIA FEBRIFUGA, Willd.*

Vern.—*Rohan*, HIND.; *Rohina*, BENG.; *Shem, wond*, TAM.; *Sumi* TEL.; *Sohan, suam*, URIYA; *Soimi*, GOND; *Royta*, BHIL.

A large deciduous tree of Central India and Dekkan.



## SPONDIAS.

Sapwood small, whiteish; heartwood extremely hard and close-grained, reddish-black, very durable; free from attack of white-ants. Weight about 76 lbs. per cubic foot.

Used for construction, well-work, plough-shares, and oil-mills.

C 194.	Mandla, Central Provinces, 1871	lbs.
C 1123.	Ahiri Reserve, Central Provinces	73
C 1240.	Gumsūr, Madras	72
D 2113.	Mysore	74
C 3566.	Khurda Forests, Orissa	75
		71

## SPATHOLOBUS.

955

**Spatholobus Roxburghii**, Bth., LEGUMINOSÆ.

Syn.—*BUTEA PARVIFLORA*, Roxb.

Vern.—*Mala, mulu, maula*, HIND.; *Debrelara*, NEPAL; *Tetrobrik*, LEPCHA; *Pouknway*, BURM.

A gigantic creeper of the sub-Himalayan tract from the Jumna eastward to Bengal and Burma.

E 480.	Darjeeling	...
O 2927.	Garhwal	...

## SPIRÆA.

956

**Spiræa canescens**, Don., ROSACEÆ.

Vern.—*Chaku, taku*, SIMLA.

"A shrub, 6 feet, with densely leafy brandes." (*Hk. Fl. Br. Ind.*) Found in the North-West Himalaya, from Murree to Kumaun, chiefly on open hill-sides as a stiff bush.

Wood hard, close and even-grained.

H 159.	Simla, 7,000 feet	lbs.
H 2827.	Mahasu, Simla, 8,000 feet	47
		...

957

**S. sorbifolia**, Linn.

Syn.—*S. LINDLEYANA*, DC.

Vern.—*Sarbashtai, kikri, batu*, Pb.

A shrub of the North-West Himalaya, from the Sutlej to Kumaun, above 7,000 feet. Chiefly found in shady, damp woods.

Wood hard, compact, even-grained. Annual rings distinctly marked by a belt of more numerous pores.

H 82.	Simla, 7,000 feet	lbs.
H 3014.	Hattu Forest, Simla, 8,000 feet	49
		...

## SPONDIAS.

958

**Spondias mangifera**, Pers., ANACARDIACEÆ.

THE HOG PLUM.

Vern.—*Amra, amara, ambodha*, HIND.; *Amara*, NEPAL, ASS.; *Amna*, BENG.; *Ronchiling*, LEPCHA; *Adai, tongrong*, GARO; *Kat máa*, TAM.; *Aravi mamádi, amatum*, TEL.; *Kat ambolam*, MAL.; *Amb, MAR.*; *Amte*, KAN.; *Hamára*, GOND; *Ambera*, KURKU; *Puli ille*, KADERS; *Gway*, BURM.

A deciduous tree of the sub-Himalayan tract, ascending to 3,000 feet in Sikkim; dry forests of South India and Burma; rare in Central India.

STAPHY-  
LEA.

Wood soft, light-grey. Weight, about 43 lbs. per cubic foot.

	lbs.
C 2800. Melghát, Berar . . . . .	...
E 499. Kookloong Forest, Darjeeling Terai . . . . .	30
E 1296. Cachar (Vern. <i>Túndúr</i> ) . . . . .	21
E 1497. Sylhet (Vern. <i>Sutrung</i> ) . . . . .	25
B 560. Burma . . . . .	29

## SPONIA.

*Sponia orientalis*, Planchon, URTICACEÆ.

959

INDIAN NETTLE TREE.

Syn.—*CELTIS ORIENTALIS*, Linn.; *TREMA ORIENTALIS*, Bl.; *S. WIGHTII*, Planch.; *S. AMBOINENSIS*, Dcne.

Vern.—*Badu manu*, C. P.; *Kooail*, NEPAL; *Tugla*, LEPCHA; *Param*, MICH; *Jupong*, *phakram*, *jugini*, *sapang*, *sempak*, *amphak*, *opang* (See *Agri-Horticultural Society of India Proceedings for November 1877*), ASS.; *Rarunga*, KOL.; *Mini*, TAM.; *Gada-nelli*, TEL.; *Gorklu*, KAN.; *Gol*, MAR.; *Rukni*, BAIGAS.

A small fast-growing and short-lived tree of Himalaya from Nepal eastwards, Bengal, Burma, Central and Southern India.

Wood light reddish-grey, soft. Weight 28 lbs. per cubic foot.

It is used for charcoal, which is good for gunpowder manufacture.

	lbs.
E 2446. Sivoke, Darjeeling Terai . . . . .	28

*S. politoria*, Planch.

960

Vern.—*Bantamman*, *kanglu*, *khúri*, PB.; *Jáún*, *khasaroa*, *márni*, *bátu*, *banharria*, HIND.; *Kháoi*, *khávi*, *kooail*, NEPAL; *Tuksat*, LEPCHA.

A small evergreen tree, met with in the Salt Range, outer Himalaya, Oudh, Sikkim.

Wood white, moderately hard, splits and cracks in seasoning.

Weight 36 lbs. per cubic foot.

Wood and bark used in a similar way to those of *S. Orientalis*.

	lbs.
O 1369. Gonda, Oudh . . . . .	36

## STAPHYLEA.

*Staphylea Emodi*, Wall., SAPINDACEÆ.

961

Vern.—*Marchob* (Serpent Stick), AFG.; *Nagdaun*, *chitra*, *chúal*, *ban-bakhrú*, *ban-shagali*, *gúldar*, *kághania*, HIND.

A large shrub or small tree of the North-West Himalaya, above 6,000 feet.

Wood soft, grey. Weight 44 lbs. per cubic foot.

Sticks are made of the wood which are sold in the hill bazars. They are supposed by the Afghans and frontier tribes to have the property of keeping off snakes.

	lbs.
H 2900. Nagkanda, Simla, 8,000 feet . . . . .	41
H 3189. Dungagalli, Hazara, 7,000 feet . . . . .	47

## STERCULIA.

## STEPHEGYNE.

962 *Stephegyne parvifolia*, Hook. f. & Bth., RUBIACEÆ.

Syn.—NAUCLEA PARVIFOLIA, Roxb.

Vern.—Kaddam, kallam, keim, kangei, HIND.; *Ihaldu*, KUMAUN; *Mundi*, GOND; *Naigas*, Kutebi, KURKU; *Buta-kadambe*, TAM.; *Nir-kadambe*, karmi, bataganapu, TEL.; *Congá*, hedu, yetega, kadwar kadani, KAN.; *Kadamb*, karamb, kalam, MAR.; *Tamát*, BHIL; *Gai*, komba, KOL.; *Guri*, gurikaram, KHARWAR; *Helembé*, CINGH.; *Kumra*, BANSWARA; *Hteinthay*, BURM.

A large deciduous tree found throughout India and Burma.

Wood light pinkish-brown, moderately hard, generally harder than that of *Adina Cordifolia*. No heartwood. Weight about 47 lbs. per cubic foot.

It is easily worked and polishes well; it is durable, if not exposed to wet.

It is used for building, furniture, agricultural implements, combs, cups, spoons, and platters, and for turned and carved articles.

		lbs.
P 458.	Ajmere . . . . .	...
O 269.	Garhwal (1868) . . . . .	45
O 529.	Dehra Dun . . . . .	41
O 344.	Gorakhpur . . . . .	42
O 1481.	Kheri, Oudh . . . . .	44
C 178.	Mandla, Central Provinces (1870) . . . . .	42
C 186.	" " " " . . . . .	46
C 1120.	Ahiri Reserve, Central Provinces . . . . .	44
C 2783.	Melghát, Berar . . . . .	44
B 561.	Prome . . . . .	40
B 2539.	Burma (1862) . . . . .	38
No. 36.	Salém Collection . . . . .	44
No. 35.	Ceylon Collection . . . . .	42
C 824.	Bairagarh Reserve, Berar . . . . .	...

963 *S. Sp.*, Gamble.Vern.—*Kalé*, kalikat, NEPAL.

A large tree.

Heartwood orange-yellow, sapwood reddish. Wood moderately hard.

Weight 44 lbs. per cubic foot.

It is used for building.

		lbs.
E 2385.	Chenga Forest, Darjeeling . . . . .	44

## STERCULIA.

964 *Sterculia coccinea*, Roxb., STERCULIACEÆ.Vern.—*Sitto udal*, NEPAL; *Katior*, LEPCHA.

A small evergreen tree of the Eastern Himalaya, ascending to 6,000 feet; Assam, Khásia Hills, hills of Burma.

Wood grey, spongy, extremely soft. Weight 17 lbs. per cubic foot.

		lbs.
E 573.	Khooklong Forest, Darjeeling Terai . . . . .	17

**Sterculia colorata, Roxb.**

Vern.—*Bodula, walena, samarri*, HIND.; *Moola*, BENG.; *Sitto udal, phirphiri, omra*, NEPAL; *Kanhlyem*, LEPCHA; *Pisi*, KOL.; *Lersima*, KHARWAR; *Bolasong*, GARO; *Khowsey, pinj*, BERAR; *Bhai-koi*, BOM.; *Karak*, TEL.; *Wet-shaw*, BURM.; *Berdá*, AND.

A moderate sized tree of the sub-Himalayan tract from the Jumna eastwards, Central and South India, Burma, and the Andaman Islands. Wood grey, very soft. Weight 24 lbs. per cubic foot.

		lbs.
E 1394.	Chittagong . . . . .	24

**S. foetida, Linn.**

Vern.—*Jangali-badam*, HIND.; *Pindri*, TAM.; *Gurapu badam*, TEL.; *Hlyanpyoo, letkop*, BURM.

A large evergreen tree of South India and Burma.

Wood grey, soft, spongy, but harder and firmer than that of *S. villosa*, which it resembles in structure and appearance.

		lbs.
E 3708.	R. B. Gardens, Calcutta (1881) . . . . .	29

**S. urens, Roxb.**

Vern.—*Gúll, kúll, gular, tabsi, tanuku, karrai*, HIND.; *Odra, hatchanda*, ASS.; *Keonge*, MANIHUM; *Feley*, KOL.; *Kanaunji*, MONGHYR; *Tabso*, TEL.; *Vellay pútali*, TAM.; *Ilittum, pinoh*, GOND; *Takli*, KURKU; *Karai, kandol, gwira*, MAR.; *Kalru*, AJMERE; *Kalauri*, PANCH MEHALS.

A large deciduous tree of the sub-Himalayan tract from the Ganges eastwards, Southern India and Burma.

Wood very soft, reddish-brown with an unpleasant smell, with lighter-coloured sapwood. Weight about 42 lbs. per cubic foot.

It is used to make native guitars and toys.

		lbs.
P 471.	Ajmere . . . . .	35
P 3220.	Nagpahar, Ajmere . . . . .	...
C 1102.	Ahiri, Central Provinces . . . . .	39
D 1088.	Madura, Madras . . . . .	51
C 3430.	Kinandi Reserve, Palamow, Chota Nagpur . . . . .	...

**S. villosa, Roxb.**

Vern.—*Poshwa*, SUTLEJ; *Udal, udar*, HIND.; *Gul-bodla, gul-kandar, massu*, PB.; *Kanhlyem*, LEPCHA; *Lisi, walkom*, KOL.; *Pironja*, MUNDARI; *Sisir*, ORAON; *Kúdar, baringa*, GOND; *Buti*, KURKU; *Omak, odela, salua*, ASS.; *Udare*, GARO; *Vake nar, arni, ani-nar*, TAM.; *Sambeing*, MAGH.

A moderate sized tree of the sub-Himalyan tract from the Indus eastwards; common in forests throughout India and Burma.

Wood grey, very soft and spongy. Weight 22 lbs. per cubic foot.

It is not used.

		lbs.
E 2324.	Sivoke, Darjeeling Terai . . . . .	22
E 620.	Bamunpokri, Darjeeling Terai . . . . .	15
W 847.	South Kanara . . . . .	20

STERCULIA.

965

966

967

968

**STÉREOS-  
PERMUM.**

**STEREOSPERMUM.**

969 *Stereospermum chelonoides*, DC., BIGNONIACEÆ.

**Syn.**—BIGNONIA CHELONOIDES, *Linn.*

**Vern.**—*Pader*, *padri*, *parral*, HIND.; *Parari*, NEPAL; *Singyen*, LEPCHA; *Sirpang*, MECHI; *Bolsel*, GARO; *Kandior*, KOL.; *Pandair*, LOHARDUGA; *Pandri*, KHARWAR; *Parolli*, ASS.; *Pareya-awwal*, CACHAR; *Dharmara*, *atcapali*, BENG.; *Tsaingtsa*, MAGH.; *Padri*, *pon-padira*, *pathiri*, *vela-padri*, TAM.; *Tagada*, *thagu*, *kala goru*, *moka-yaba*, *pisul*, TEL.; *Taitu*, BERAR; *Pamphunia*, *UYIYA*; *Kirsel*, *tuatuka*, *padul*, MAR.; *Padurni*, BHIL.; *Nai-udi*, *mallali*, COORG.; *Kali-udi*, KAN.; *Luna-madala*, CINGH.; *Thakooppo*, BURM.

A large deciduous tree met with in Bengal, Burma, Central and South India.

Wood hard, grey, no heartwood; moderately durable, elastic, and easy to work. Weight about 48 lbs. per cubic foot.

It is used for building, and is good for furniture. It is also used for canoes and building in Assam, and for tea-boxes in Cachar.

		lbs.
C 1164.	Ahiri Reserve, Central Provinces . .	40
C 1172.	" " " " . .	38
C 1411.	Moharli " " " " . .	46
C 833.	Bairagarh Reserve, Berar . .	...
E 659.	Khoo kloong Forest, Darjeeling Terai .	51
E 673.	Bamunpokri Forest " " .	48
E 632.	Eastern Dúars, Assam . .	40
E 1398.	Chittagong . . . .	59
D 1070.	North Arcot . . . .	50
B 2546.	Burma (1862) . . . .	52
E 3603.	Darjeeling . . . .	...

070 | *S. fimbriatum*, DC.

Vern.—*Thanthat*, BURM.

A deciduous tree of Martaban and Tenasserim in Burma.

Heartwood small, dark brown; sapwood light brown; wood very hard; in structure similar to that of *S. suaveolens*. Weight 54 lbs. per cubic foot.

B 2696. Tavoy ( <i>Wallich</i> , 1828)	.	.	.	.		54
--	---	---	---	---	--	----

971 | S. sp.?

Found in Chittagong, the Andamans, and Anam<sup>and</sup> Hills.

Wood rough, yellowish-grey, moderately hard, in structure resembling *S. suaveolens*. lbs.

<b>S. suaveolens.</b>	lbs.
E 719. Chittagong . . . . .	52
D 1284. Anamalai . . . . .	54
B 2335. Andamans . . . . .	52
B 2234. Ditto . . . . .	56

972 *S. suaveolens*, DC:

**Syn.**—BIGNONIA SUAVEOLENS, *Roxb.*

**Verri.**—*Paral, padal, padiāla, padaria, parur*, HIND.; *Pandri*, C. P.; *Phalgataitiu*, MELGHAT; *Parari*, NEPAL; *Singyen*, LEPCHA; *Kandior*, KOL.; *Pandri*, KHARWAR; *Parūl*, BENG.; *Patūli*, URIVA; *Padri*, TAM.; *Kala-goru, kuberakashi, padari, patali*, TEL; *Hooday, billa*, KAN.; *Unt katar, padar*, GOND; *Padar*, KURKU; *Pandan*, BHIL; *Parūl, kalagorā*, MAR.

A large deciduous tree of the sub-Himalayan tract from the Jhe-

## STREBLUS

lum eastwards, ascending to 4,000 feet, Bengal, Burma, Central and South India.

Sapwood large, grey, hard. • Heartwood small, yellowish-brown, beautifully mottled with darker streaks, very hard, seasons and polishes well. Wood is fairly durable, and easy to work. Weight about 46 lbs. per cubic foot.

It is much valued for building, and makes excellent charcoal.

		lbs.
O 243.	Garhwal (1868)	41
O 341.	Gorakhpur (1868)	49
C 197.	Mandla, Central Provinces (1869)	40
C 1114.	Ahiri Reserve, Central Provinces	46
C 2745.	Moharli "	50
C 832.	Bairagarh Reserve, Berar	...
E 1959.	Chittagong	51
B 307.	Burma (1867)	44
O 1378.	Gonda, Oudh	...

**Stereospermum xylocarpum, Bth. & Hook. f.**

973

Syn.—SPATHODEA XYLOCARPA, T. And.; BIGNONIA XYLOCARPA, Roxb.

Vern.—*Kharsing, bersinge*, MAR.; *Jai-mangal, sondar-padal*, MANDLA; *Dhōta mara, dhotte*, GOND; *Tito*, KURKU; *Vadencarni*, TAM.; *Ghansing*, KAN.

A deciduous tree met with in the Satpura Range, Khandeish and South India.

Sapwood large, grey; heartwood very hard, brown. Wood tough and elastic, close-grained. Weight 47 lbs. per cubic foot.

Used for cabinet work.

		lbs.
C 2810.	Melghát, Berar (sapwood)	36
C 958.	Guzerat	47
W 996.	Sahyádrí Gháts, Ahmednagar	47
	South Coimbatore (1883.)	

**STRANVÆSIA.**

**Stranvæsia glaucescens, Lindl., ROSACEÆ.**

974 -

Vern.—*Garmehal, sánd*, KUMAUN.

A small evergreen tree of the Central Himalaya, Kumaun, and Garhwal, from 3,000 to 8,000 feet, Nepal, and Khásia Hills.

Wood light-coloured when fresh cut, turning reddish-brown on exposure, fine and even-grained; annual rings marked by a thin line. Weight 48 lbs per cubic foot.

		lbs.
H 2870.	Naini Tal, 6,000 feet	48

**STREBLUS.**

**Streblus asper, Lour., URTICACEÆ.**

975

Syn.—TROPHIS ASPERA, Retz.

Vern.—*Jindi*, PR.; *Siora, karchanua, rúsa*, HIND.; *Sheora*, BENG.; *Sahada*, URIVA; *Baranki, burinka, pakki*, TEL.; *Karera, kharraoli*, MAR.; *Karasni*, GOND.; *Mitli*, KAN.; *Ungnai*, MAGH; *Opnai*, BURM.; *Gattao nittul*, CINGH.

A small evergreen tree of the sub-Himalayan tract from the Beas

**STYRAX.**

eastwards, Bengal, Central and South India, Burma, and the Andaman Islands.

Wood white, moderately hard, no heartwood, no annual rings; tough and elastic. Weight about 75 lbs.

In South India it is sometimes used for cart-wheels. It is good for hedges, coppices well, and has been recommended for fuel. The twigs are used as tooth-brushes, and the rough leaves polish wood and ivory.

O 1478.	Gonda, Oudh	lbs.	40
C 1165.	Ahiri Reserve, Central Provinces	lbs.	39

**STRYCHNOS.****976 Strychnos Nux-vomica, Linn., LOGANIACEÆ.**

THE SNAKE WOOD, NUX-VOMICA OR STRYCHNINE TREE.

Vern.—*Kuchla, kajra*, HIND.; *Kuchila*, BENG.; *Kuchila, kerra, korra*, URIYA; *Yetti*, TAM.; *Mushti, musadi*, TEL.; *Kasaraka, kujarra, khasca, kasaragadde*, KAN.; *Kara, jhar katchura*, MAR.; *Kamjaram*, TRAVANCORE; *Goda kaduru*, CINGH.; *Khoubung*, BURM.

A moderate sized evergreen tree of Bengal, Burma, and South India.

Wood brownish-grey, hard, close-grained, splits and warps. Weight about 57 lbs. per cubic foot.

It is used in Burma for carts, agricultural implements, and fancy cabinet-work.

W 1224.	North Kanara	lbs.	65
W 727.	South "	lbs.	59
B 3072.	Burma (1862)	lbs.	49
E 3537.	Khurda Forests, Orissa	lbs.	63
C 3538.	" " "	lbs.	54

**977 S. potatorum, Linn. fl.**

THE CLEARING NUT TREE.

Vern.—*Nirmali, nelmal*, HIND.; *Kotaku*, URIYA; *Ustumri*, GOND; *Tettancottai, tettian*, TAM.; *Chilla, indupa, induga, katakamu, judapa*, TEL.; *Nirmali, chilbinj*, MAR.; *Ustumri*, GOND; *Tettam-parel*, MAL.; *Chiltu*, KAN.; *Ingini*, CINGH.

A moderate sized evergreen tree of Bengal, Central and South India.

Wood white when fresh cut, turning yellowish-grey on exposure, hard, close-grained, seasons well. No heartwood; durable. Weight 57 lbs. per cubic foot.

Used for building, carts, and agricultural implements.

C 1101.	Ahiri Reserve, Central Provinces	lbs.	55
C 2979.	Bijeragogarh, Central Provinces	lbs.	...
D 1060.	South Arcot	lbs.	61
No. 44.	Salem Collection	lbs.	56
C 3500.	Khurda Forests, Orissa	lbs.	...

**STYRAX.****978 Styrox Hookeri, Clarke, STYRACEÆ.**

Vern.—*Chamokung*, LEPCHA.

A small tree of Eastern Bengal, Sikkim, and Bhootan, not uncommon at 6,000 to 7,000 feet altitude.

Wood white, close-grained, moderately hard.

\*E 3320. Darjeeling, 6,500 feet.

***Styrax serrulatum*, Roxb. .**

Vern.—*Chamokung*, LEPCHA.

"A small evergreen tree of Eastern India ; altitude 8,000 to 7,000 feet, frequent from Nipal and Bhootan to Pegu and Penang."

Wood whitish, rather soft, but not liable to warp or split.

Used by Blutias for prayer poles.

E 3372. Darjeeling, 6,000 feet.

SYMPLO-  
COS.

979

**SWIETENIA.**

***Swietenia Mahagoni*, Linn., MELIACEÆ.**

THE MAHOGANY TREE.

A large evergreen tree of Jamaica and Central America. Cultivated in Bengal, and as far north as Saharanpur. The tree was introduced into the Botanic Gardens at Calcutta in 1795 (plants from the West Indies), and although it was largely propagated by layers, no further new introductions were probably made until 1865, when about 8,000 seeds were sown in Calcutta by Dr. T. Anderson. A number of these seeds did not succeed, but in the end 460 plants were procured, three-fourths of which were planted in the Mohurgong Forest in the Darjeeling Terai, and the remainder at Calcutta. The plantation at Mohurgong was a failure, but the growth of mahogany at the Calcutta Botanic Gardens, and at other places in Bengal to which it was distributed, has been very satisfactory. The experiment is now being continued, both in Bengal and in Burma, and in time it may be hoped that the tree will be cultivated successfully as an adjunct to teak. On account of its rapid growth, and the great value of its wood, the tree should be grown whenever practicable in the tropical regions of India. In the Calcutta market it fetches from 6½ to 8 annas per superficial foot of planking one inch thick ; and in London from 4d. to 1s. 6d.

Heartwood reddish-brown, seasons and works well, hard. Weight about 53 lbs. per cubic foot.

In Europe the wood is, perhaps, used more extensively than any other for furniture ; it is also used in ship-building.

E. 1361. Calcutta Botanic Gardens . . . lbs.  
45

**SWINTONIA.**

***Swintonia Schwenckii*, Teysm. & Binnend, ANACARDIACEÆ.**

Vern.—*Boilam, boilsur*, BENG. ; *Sambung, sanginphroo*, MAGH ; *Shibiku*, CHAKMA ; *Thayet san*, BURM.

A very large tree of the Eastern Peninsula from Chittagong southward, and especially in Chittagong.

Wood is sometimes used for boats, and is said by Major Lewin to last better than other woods in salt-water.

E 1964. Chittagong . . . . .

**SYMPLOCOS.**

***Symplocos cratagoides*, Hamilton, STYRACEÆ.**

Vern.—*Lú, lándwar, loj, losh*, PR. ; *Lodh*, KUMAUN ; *Loja*, SUTLEJ.

A large shrub or small tree of Himalaya from the Indus to Assam, between 3,000 and 8,000 feet, the Khásia Hills and Hills of Martaban.

980

981

982



**TABERNÆMONTANA.**

Wood white, hard, close-grained, durable, splits and twists in seasoning. Weight 54 lbs. per cubic foot.

Has been recommended for turning, and would do for carvings, if properly seasoned.

H 54.	Nagkanda, Simla, 7,000 feet	lbs.
H 2880.	" " " "	54
H 3018.	Kotgarh, " " "	...
H 429.	Kuruwa Forest, Jaunsar, 6,000 feet	45

**983 Symplocos lucida, Wall.**

Vern.—*Kharani*, NEPAL; *Chashing*, BHUTIA.

A small evergreen tree, met with in the Sikkim Himalaya and hills of Martaban.

Wood white, soft. Weight 36 lbs. per cubic foot.

Used for fuel and rough house-posts.

E 2390.	Rangbúl Forest, Darjeeling	lbs.
		36

**984 S. phyllocalyx, Clarke: Hook., Fl. Ind., iii, 575.**

Vern.—*Lal chandan*, NEPAL.

Wood white, soft, close-grained, with vertical streaks of bright red colour. The red wood, which is most abundant in the root, is pounded and used for caste marks by Nepalese.

E 370.	Kalapokri, Darjeeling, 9,000 feet	lbs.
E 2391.	Thosum La, Dumsong, 8,000 feet	45

**985 S. ramosissima, Wall.**

Vern.—*Lodh*, HIND.; *Kala kharani*, *silingi*, NEPAL; *Tungchong*, LEPCHA.

A small evergreen tree of Himalaya from the Jumna to Bhutan ascending to 7,500 feet, Khásia Hills.

Wood white, soft, even-grained. Weight 37 lbs. per cubic foot.

E 367.	Rangbúl, Darjeeling, 7,000 feet	lbs.
E 3336.	Rangirum, Darjeeling, 6,000 feet	37

**SYRINGA.****986 Syringa Emodi, Wall., OLEACEÆ.**

Vern.—*Ban phunt*, *ban dakhúr*, *banchir*, *rasli*, *júri*, *rá-grún*, *kehimu*, *lolti*, *leila*, *shafri*, *shapri*, *duden*, *chilanghati*, PB.; *Shia*, KUMAUN.

A large shrub met with in Safed-koh, North-West Himalaya, from the Indus to the Sarda, ascending to 11,000 feet.

Wood smooth, hard, with a small, dark-coloured heartwood. Weight 59 lbs. per cubic foot.

H 2911.	Nagkanda, Simla, 8,000 feet	lbs.
H 3023.	" " " " 9,000 "	59

**TABERNÆMONTANA.****987 Tabernæmontana coronaria, Willd., APOCYNACEÆ.**

Vern.—*Chandni*, *taggai*, *taggar*, HIND.; *Asuru*, NEPAL; *Krim*, LEPCHA; *Chameli*, MONGHYR.

An evergreen shrub met with in Kumaun, Eastern Bengal, Konkan; cultivated throughout India.

## TAMARIX.

Wood white, moderately hard, close-grained. Weight 47 lbs. per cubic foot.

E. 2392. Sivoke Forest, Darjeeling Terai . . . lbs.  
47

## TALAUMA.

**Talauma Hodgsoni**, Hook. f. & T., MAGNOLIACEÆ.

988

Vern.—*Sifoo*, LEPCHA; *Harré*, NEPAL.

An evergreen tree found in Sikkim Himalaya from the Terai up to 6,000 feet; Khásia Hills.

Wood very soft, even-grained. Weight 21 lbs. per cubic foot.

E. 3100. Darjeeling, 5,000 feet . . . lbs.  
21

**T. Rabaniana**, Hook. f. & Th.

989

Vern.—*Sappa*, Ass.

A large tree of the Khásia Hills and Burma.

Wood is sometimes used in Assam for furniture and planking.

(Specimens wanted.)

## TAMARINDUS.

**Tamarindus indica**, Linn., LEGUMINOSÆ.

990

THE TAMARIND.

Vern.—*Amlí, ambli, mli*, HIND.; *Tintiri, tintil, tintál*, BENG.; *Titri*, NEPAL; *Teteli*, ASS.; *Tentáli, koyan*, URIYA; *Páli*, TAM.; *Chinta*, TEL.; *Jojo*, KOL.; *Chita, sitta, hitla*, GOND; *Cicha*, OUKU; *Karangí, kamal, asam*, MYSORE; *Hunase*, KAN.; *Amlí, chits*, MAR.; *Siyembela*, CINGH.; *Magye*, BURM.

A large evergreen tree, cultivated throughout India and Burma as far north as the Jhelum.

Wood yellowish white, sometimes with red streaks, hard and close-grained. Heartwood small, near the centre of old trees only, dark purplish brown, with an irregular outline and radiating ramifications, very durable. Weight, about 83 lbs. per cubic foot.

Wood highly prized, though extremely difficult to work. It is used for wheels, mallets, planes, furniture, rice-pounders, oil and sugar mills, and is an excellent wood for turning. It is very largely planted in avenues and temples, and is one of the most beautiful of Indian trees.

C. 2811.	Melghát, Berar	} sapwood {	.	.	61
P. 451.	Ajmere		.	.	63
E. 2353.	Siliguri, Bengal		.	.	63
D 2014.	Mysore		.	.	82
No. 79.	Ceylon Collection	} heartwood . {	.	.	80

## TAMARIX.

**Tamarix articulata**, Vahl., TAMARISCINÆ.

991

Vern.—*Farás, farwa, rákh, ukhan, kharlei, narlei*, PB.; *Asrelbi*, SIND.

A large or moderate sized tree, of Punjab and Sind.

Wood white, moderately hard. Weight about 61 lbs. per cubic foot.

It is used for many kinds of ordinary work, for ploughs, Persian wheels and small ornaments, and for charcoal.

P 886. Multan . . . lbs.  
61

## TECOMA.

992

**Tamarix dioica, Roxb.**

Vern.—*Lej, pilchi, koan, kacheli*, Ps.; *Gas, láo, jau*, SIND; *Lal jhau*, BENG.; *Jau*, HIND.

A gregarious shrub found throughout India from Sind to Burma. Often planted for ornament.

Wood moderately hard, red, outer portion white. Weight 40 lbs. per cubic foot.

It is used mainly for fuel, but also for the supporting sticks of roofs, and for basket work.

P 888.	Multán	.	.	.	.	.	.	lbs.
P 1388.	Lahore	.	.	.	.	.	.	51

## TAXUS.

993

**Taxus baccata, Linn., CONIFERÆ.**

THE YEW.

Syn.—*T. NUCIFERA*, Wall.; *T. WALLICHIANA*, Zucc.

Vern.—*Saróp, badar*, AFG.; *Birmi, barma, barini, túng, thúnu, sungal, pústul, chogu, chatúng*, KASHMIR, CHAMBA; *Rakhal*, BEAS; *Barmi, SHALI; Thána, HATTU; Yamdal, rikaliug, KUNAWAR; Thúner, geli, gallu, lást*, N. W. P.; *Nhare*, TIBET; *Pung-cha, sungcha*, LADAK; *Tcheiray sulah, NEPAL; Tingschi, tsashing*, BHUTIA; *Cheongbu, LEP-CHA; Dingsableh*, KHASIA.

A large evergreen tree of the Himalaya, from the Indus to Bhutan, generally between 6,000 and 10,000 feet, and in the Khásia Hills, Europe, North Africa, Western Asia, Japan, and North America.

Sapwood white, heartwood red or orange-red, hard, close-grained, smooth, works and polishes well. Weight about 59 lbs. per cubic foot.

Wood is used for bows, carrying poles and native furniture, and deserves to be better known and more extensively used, as it is very strong and elastic, and works and polishes beautifully. In some parts of the Himalaya and the Khásia Hills it is held in great veneration and called *Deodar* (God's tree); the wood is burnt as incense, the branches are carried in religious processions in Kumaun, and in Nepal the twigs are used to decorate houses at religious festivals.

H 161.	Hazara, 8,000 feet	.	.	.	lbs.
H 921.	" "	.	.	.	41
H 895.	Murree "	.	.	.	43
H 116.	Jagatru, Kulu, 8,000 feet	.	.	.	40
H 773.	Chanota, Ravi, 7,500 "	.	.	.	41
H 18.	Matiyana, Simla, 9,000 feet	.	.	.	43
H 56.	Hattu, Simla, 9,500 feet	.	.	.	46
H 2865.	" "	.	.	.	50
H. 422.	Mohna Block, Deoban, 8,000 feet	.	.	.	47
E 382.	Tonglo, Darjeeling, 9,000 feet	.	.	.	43
E 796.	Khásia Hills, 5,000 feet	.	.	.	46
		.	.	.	45

**Tea boxes and other packing cases.**—Woods in use or suggested for. See APPENDIX.

## TECOMA.

994

**Tecoma undulata, G. Don., BIGNONIACEÆ.**

Syn.—*BIGNONIA UNDULATA*, Roxb.

Vern.—*Reodána, rebdán*, TRANS-INDUS; *Lahúra, lúar, roir, raktra*, PB.; *Lohári, lohéro*, SIND; *Roirra*, MHAIRWARRA; *Rakht reora*, MAR.

An evergreen shrub or small tree met with in Sulaiman and Salt Ranges, Punjab plains, Rajputana, Guzerat.

## TECTONA.

Heartwood greyish or yellowish brown, close-grained, mottled with lighter streaks, takes a fine polish. Wood is tough, strong and durable, works and polishes well. Weight about 46 lbs. per cubic foot.

It is highly prized for furniture, carving work, and agricultural implements.

P 943. Salt Range, Punjab

lbs.  
64

## TECTONA.

*Tectona grandis*, Linn. fl., VERBENACEÆ.

995

## THE TEAK TREE.

**Vern.**—*Sáj*, ARAB.; *Sáj*, *sál*, PERS.; *Ságún*, HIND.; *Singuru*, URIYA; *Ság*, *ságwan*, MAR.; *Teka*, GOND; *Ság*, BHIL; *Tekku*, *tek*, TAM.; *Teku*, TEL.; *Jádi*, *sagwani*, *téga*, KAN.; *Tekka*, CINGH.; *Kyun*, BURM.; *Jati*, MALAY.

A large deciduous tree, found in Central and South India, and Burma. Its northern limit may be defined by a line passing from the mouth of the Nerbudda up that river, and across to and down the Mahanadi; but in some places it extends farther north, and it is found as far as Jhansi and Banda. It is cultivated in Assam, Bengal, and the sub-Himalaya as far north as Saharanpur.

The sapwood is white and small; the heartwood when cut green has a pleasant and strong aromatic fragrance and a beautiful dark golden yellow colour, which, on seasoning, soon darkens into brown mottled with darker streaks, hard, exceedingly durable, and strong. The wood does not split, crack, warp, shrink, or alter its shape when once seasoned; does not suffer in contact with iron, and is rarely, if ever, attacked by white ants. Its durability is probably due to the aromatic oil contained in the wood. It works easily and takes a good polish. Weight, about 40 lbs. per cubic foot.

It is the chief timber of India and Burma; it is exported largely for ship-building and the construction of railway carriages; in India it is used for all purposes of house and ship-building, for bridges, sleepers, furniture, and most other purposes.

		lbs.
C 1408.	Jagmandaj Reserve, Central Provinces	...
C 1409.	Ahiri Reserve, Central Provinces	38
C 2933.	Sonawani, Satpura Reserve, Central Provinces	..
	(Tree planted in 1867, cut down in 1876, 10 inch girth.)	..
C 2983.	(White Teak, <i>Dudhia Sagun</i> ), Jubbulpore, Central Provinces, 1863	41
C 2982.	(Black Teak, <i>Telia Sagun</i> or oil teak), Jubbulpore, Central Provinces, 1863	48
C 2987.	(Stone Teak, <i>Pattharee Sagun</i> ), Jubbulpore, Central Provinces, 1863	44
C 834.	Bairagarh Reserve, Berar	46
C 2809.	Melghát, Berar (sapwood)	38
E 1202.	Bamunpokri Plantation, Darjeeling Terai, Bengal	...
Specimens from compartment I. 1 planted 1868.		...
"	" " II. 1 " 1871.	...
"	" " I. 1 " " "	...
"	" " I. 3 b " 1872.	...
E 3290-291.	Hoolingamara Block, Sitapahar plantations, Chittagong, 1873 and 1875.	...

**TERMIN-  
ALIA.**

E 3386-88.	Rampahar Block, Sitapahar plantation, Chittagong, 1873.	
W 1216.	North Kanara Plantation, Bombay.	
	Specimen from	{ Sulageri, 18 years old.
		{ Murdi 12 " "
		{ Kadra 10 " "
W 1217.	North Kanara, Bombay	lbs. 39
W 730.	South Kanara, Madras	46
W 753.	" " "	42
W 1206.	Parappa Teak Plantation, South Kanara, Madras. Saplings of 5 and 10 years' growth	...
W 2959.	Nilambour Plantation, Malabar. Specimens cut by Mr. Brandis in 1864, Nos. 1, 2 and 4 aged 5, 10 and 20 years, and measuring 16, 19 and 25 inches in girth respectively	...
W 1203.	Nilambour Plantation, Malabar. Series, Nos. 1 to 33, aged 33 years to 1 year respectively	...
B 2551.	Burma (1862)	44
B 801.	Pegu	40
B 1385.	Thinganneenong Plantation, Martaban	34
	Tree 54 feet high, 30 feet to first branch, planted in 1856.	
B 2709.	Tavoy (Wallich, 1828)	42
B 1346.	Andaman Islands	...
	(Tree planted at Dhunee Valley, Leaf Creek, Port Blair, in 1873. Height 44 feet: girth at 5 feet, 36 inches; at 21½ feet, 17 inches; at 28½ feet, 10 inches.)	
No. 85.	Ceylon Collection (Ceylon wood)	44
" 86.	" " (Cochin wood)	40
" 87.	" " (Moulmein wood)	44
" 47.	Salem Collection	40

996

**Tectona Hamiltoniana, Wall.**Vern. — *Tanap*, BURM.

A deciduous tree met with in the Prome district and Upper Burma.

Wood light brown, hard, close-grained. Weight 64 lbs. per cubic foot.

A good wood, and likely to be useful.

B 3126.	Prome, Burma	lbs. 64
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**TERMINALIA.**

997

**Terminalia Arjuna, Beddome, COMBRETACEÆ.**Syn. — *T. CRENULATA*, Roth.; *PENTAPTERA ARJUNA* and *GLABRA*, Roxb.

Vern. — *Anjan*, *arjún*, *arjuna*, *anjani*, *arjan*, *jamla*, *koha*, *kowa*, *kahúa*, HIND.; *Arjún*, BENG.; *Gara hatana*, KOL.; *Hanjai*, CUTTACK; *Vella marda*, *vella matti*, *vella marúthá*, TAM.; *Arjun*, *anjan*, *sudura*, MAR.; *Maddi*, *billi matti*, MYSORE; *Yermaddi*, *erra maddi*, *tella madu*, TEL.; *Kahu*, BAIGAS; *Mangi*, *koka*, GOND; *Toukkyan*, BURM.

A large deciduous tree of the sub-Himalayan tract (not common), Oudh, Bengal, Burma, Central and South India.

Sapwood reddish white; heartwood brown, variegated with darker-coloured streaks, very hard. The wood is apt to split in seasoning and is not easy to work. Weight about 57 lbs. per cubic foot.

It is used for carts, agricultural implements, boats, and for building.

	lbs.
C 179. Mandla, Central Provinces (1870)	54
C 1111. Ahiri Reserve, Central Provinces	60
C 2760. Moharli Reserve, Central Provinces	...
C 3461. Saranda Forests, Chota Nagpore	69

### **Terminalia belerica, Roxb.**

**Vern.**—*Babela*, *beleyleh*, PERS.; *Bahera*, *bhaira*, *behara*, HIND.; *Bohera*, BENG.; *Baheri*, RAJBANSHI; *Kanom*, LEPCHA; *Chirora*, GARO; *Lupung*, LIKUNG, KOL.; *Hulluch*, *bauri*, ASS.; *Thara*, URIYA; *Tani*, *kattu elupay*, TAM.; *Tani*, *tandi*, *toandi*, *thandra*, TEL.; *Ahera*, *jhera*, HYDERABAD; *Santi*, KAN.; *Bherda*, *bahera*, MAR.; *Balra*, *balda*, DEKKAN; *Behedo*, MANDEVI; *Tahaka*, *taka*, *banjir*, GOND.; *Yehera*, BHIL; *Búlú*, CINGH.; *Sacheng*, MAGH; *Thitsein*, BURM.

A large deciduous tree found in the sub-Himalayan tract from near the Indus eastwards; forests of India and Burma.

Wood yellowish-grey, hard, no heartwood, not durable; readily attacked by insects. Weight about 48 lbs. per cubic foot.

It is used for planking, packing cases, canoes, and in the North-Western Provinces for house-building after steeping in water which has the effect of making it more durable. In the Central Provinces it is used for plough shafts and carts when *bijasal* is not available. In South India it is used for packing-cases, coffee-boxes, catamarans, and grain measures.

	lbs.
E 3600. Darjeeling	...
P 1190. Madhopur, Punjab	35
O 534. Dehra Dun	58
O 2995. Garhwal (1874)	59
O 349. Gorakhpur (1868)	52
C 176. Mandla, Central Provinces (1870)	...
C 1125. Ahiri Reserve, Central Provinces	42
C 2737. Moharli Reserve, Central Provinces	44
C 2773. Melghát, Berar	...
E 663. Bamunpokri, Darjeeling Terai	46
W 1188. South Kanara	44
B 2532. Burma (1862)	...
No. 53. Salem Collection (marked <i>Wrightia antidysenterica</i> )	52

### **T. bialata, Wall.**

**Syn.**—PENTAPTERA BIALATA, Roxb. (*Fl. Ind. ii*, 441.)

**Vern.**—*Leinben*, BURM.

A large deciduous tree met with in Burma and the Andaman Islands.

Wood grey, beautifully mottled, moderately hard. Weight about 48 lbs. per cubic foot.

	lbs.
B 1417. Tharrawaddi, Burma	48

### **T. Catappa, Linn.**

THE INDIAN ALMOND.

**Vern.**—*Badam*, BENG.; *Taree*, KAN.; *Nal vadam*, TAM.; *Vedam*, TEL.; *Adamarram*, MAL.; *Catappa*, MALAY.

A large deciduous tree found in beach forests of the Andaman Islands; cultivated in most parts of India and Burma.

TERMIN-  
ALIA.

998

999

1000

**TERMIN-  
ALIA.**

Wood red, with lighter-colour sapwood, hard. Weight about 41 lbs. per cubic foot.

**Beddome** says the wood is used for various purposes in Madras.

		lbs.
E 3005.	Calcutta	...
B 1983.	Andaman Islands ( <i>Kurs</i> , 1866)	41
E 3712.	R. B. Gardens, Calcutta	...

**1001 Terminalia Chebula, Retz.**

**Vern.** *Harra*, *har*, *harara*, HIND.; *Hilikha*, ASS.; *Haritaki*, BENG. *Silim*, LEPCHA; *Karedha*, URIYA; *Halra*, *harla*, DEC.; *Karka*, *hir harro*, *mahoka*, GOND; *Kadakai*, TAM.; *Karaka*, *kadulhar*, TEL. *Heerda*, KAN., MAR.; *Alali*, MYSORE; *Kajo*, MAGH; *Pangah*, BURM. *Aalu*, CINGH.

A large deciduous tree of the sub-Himalayan tract from the Sutlej eastwards, ascending to 5,000 feet; Bengal, Assam, Chittagong, Central and South India.

Wood very hard, brownish-grey, with a greenish or yellowish tinge, fairly smooth and close-grained, fairly durable, seasons well, and takes a good polish. **Beddome** says it is cross-grained and difficult to work. Weight about 66 lbs. per cubic foot.

It is used for furniture, carts, agricultural implements and house-building. It is being tried for sleepers in Bengal.

		lbs.
C 3531.	Khurda Forests, Orissa	59
O 213.	Garhwal (1868)	56
O 528.	Dehra Dun	66
O 336.	Gorakhpur (1868)	60
C 181.	Mandla, Central Provinces	57
C 1159.	Ahiri Reserve, Central Provinces (1870)	66
C 842.	Bairagarh Reserve, Berar	68
C 1247.	Gumsur, Madras	60
E 671.	Bamunpokri, Darjeeling Terai	67
E 2374.	" " "	63
D 1074.	North Arcot, Madras	...
No. 50.	Salem Collection	62

**1002 T. citrina, Roxb.**

**Vern.**—*Haritaki*, BENG.; *Hilika*, *silikka*, ASS.; *Hortucki*, CACHAR; *Kyoo*, BURM.

A large deciduous tree of Assam, Eastern Bengal, Burma, and Andamans.

Wood grey, darker towards the centre, hard. Weight about 60 lbs. per cubic foot.

Used for planks and general purposes of building in Assam.

		lbs.
E 2198.	Nowgong, Assam	49
B 1982.	Andaman Islands ( <i>Kurs</i> , 1866)	...

**1003 T. myriocarpa, Heurck & Mull. Arg.**

**Syn.**—*T. MYRIOPTERON*, *Kurs*.

**Vern.**—*Panisaj*, NEPAL; *Sungloch*, LEPCHA; *Hollock*, ASS.

A very large evergreen tree of the Eastern Himalaya and Assam, in Sikkim up to 5,000 feet.

Sapwood white, not broad; heartwood brown, beautifully mottled with dark streaks. Weight, 54 lbs. per cubic foot.

Used for building and tea-boxes, also for charcoal.

	lbs.
E 500. Khookloong Forest, Darjeeling Terai	54
E 2376. Bamunpokri, Darjeeling Terai	51
E 2375, cut from a log of wood which had been lying for many years in the bed of the Chauwa Jhora, near Sivoke, in the Darjeeling Terai, and is now perfectly black, may be this species.	

### **Terminalia paniculata, W. & A.**

1004

Syn.—PENTAPTERA PANICULATA, Roxb.

Vern.—*Pe-karakai*, TAM.; *Neemeeri*, TEL.; *Kinjai*, *kindal*, MAR.; *Honal*, *huluwá*, *hulwé*, KAN.; *Poo mardá*, *pillai mardá*, ANAMALAIS.

A large deciduous tree of the western moist zone and forests of the western coast from Bombay southwards.

Wood grey, with dark heartwood, very hard. Weight 61 lbs. per cubic foot.

Wood valuable; it is improved by being kept under water. It is fairly durable. It makes good planking, and is used for the handles of ploughs in Ratnagiri.

	lbs.
W 1221. North Kanara	57
D 1280. Anamalai Hills	65

### **T. tomentosa, W. & A.**

1005

Syn.—PENTEPTERA CRENULATA, CORIACEA and TOMENTOSA, Roxb.

Vern.—*Saj*, *sein*, *asán*, *assain*, *assaina*, *asna*, *sadri*, HIND.; *Piasal*, *usan*, BENG.; *Yhau*, RAJ BANSI; *Amari*, ASS.; *Taksor*, LEPCHA; *Hatana*, KOI; *Saháju*, *kala saháju*, URIYA; *Barsaj*, BIJERAGOGARH; *Karra marda*, *kari maruthú*, *anemú*, TAM.; *Maddi*, *halla naddi*, *nella-madu*, TEL.; *Matti*, *kari matti*, *banapu*, KAN.; *Murada*, *kali maruthai*, ARCOT; *Karkaya*, *sadora*, *holda*, *dudia maddi*, HYDERABAD; *Ain*, *madat*, *yén*, MAR.; *Saja*, BAIGAS; *Maru*, GOND; *Madge*, BEIL; *Toukkyan*, BURM.; *Chouchong*, TALEING; *Kámuk*, CINGH.

A large deciduous tree, of the sub-Himalayan tract from the Ravi eastwards, ascending to 4,000 feet in places; Bengal, Central and South India, and Burma.

Sapwood reddish white, heartwood dark-brown, hard, beautifully variegated with streaks of darker colour, shewing on a radial section as dark streaks which are generally wavy or undulating; durable, seasons well, and takes a good polish. Weight about 71 lbs. per cubic foot.

The wood is largely used for house-building, carts, rice-pounders, ship and boat-building. It has been successfully tried for railway sleepers.

The wood splits, however, very much, unless thoroughly seasoned. It is an excellent fuel, and makes good charcoal.

	lbs.
O 207. Garhwal (1868)	52
O 2996. " (1874)	65
O 874. Kumaun Bhabar	53
O 389. Oudh	...
O 391. "	54
O 393. "	56
C 332. Gorakhpur (1868)	53
C 174. Mandla, Central Provinces (1870)	61
C 2924. Seoni, Central Provinces	70
C 1104. Ahiri Reserve, Central Provinces	67
C 2743. Moharli Reserve, Central Provinces (sapwood)	48
C 1241. Gumsúr, Madras	64
E 662. Bamunpokri, Darjeeling Terai	49
E 2375. Sukna, Darjeeling Terai	56



**TETRANTHERA.**

W 755. South Kanara . . . . .	lbs. 60
D 1059. South Arcot . . . . .	...
D 1077. North Arcot . . . . .	64
D 1281. Anamalai Hills . . . . .	69
B 2531. Burma (1862) . . . . .	59
E 3590. Darjeeling Terai . . . . .	...

**TETrameLES.****1006 Tetrameles nudiflora, R. Br., DATISCEÆ.**

Vern.—*Mainakat*, NEPAL; *Pcyomko*, LEPCHA; *Bolong*, GARO; *Sandugasa*, BENG; *Tsekpoban*, MAGH; *Thitpouk*, BURM.; *Bolur*, KAN

A very large deciduous tree met with in Sikkim, Garo Hills, Chittagong, Western Ghâts, Burma, and the Andamans.

Wood white, very light, soft.

It may be found useful for tea-boxes.

E. 3288. Rinkheong Reserve, Chittagong.

**TETRANTHERA.****1007 Tetranthera angustifolia, Wall., LA' RINEÆ.**

Syn.—*T. SALIGNA*, Nees.

Vern.—*Risapaing*, BENG; *Shealbuk*, MAGY

A large shrub, found near river banks in Chittagong, where it forms the most characteristic vegetation.

Wood soft, light-brown or nearly white.

E. 3283. Rinkheong Valley, Chittagong Hill Tracts.

**1008 T. laurifolia, Jacq.**

Syn.—*T. APETALA*, Roxb.

Vern.—*Mada*, *meda*, *gwa*, *rian*, *chandra*, PB; *Garhjaaur*, *singrauf*, *madh*, *menda*, HIND; *Suppatnyok*, LEPCHA; *Kukur chita*, BENG; *Narra alagi*, TEL; *Ungdung*, BURM.

A moderate sized evergreen tree of Kumaun, Garhwal, Bengal, Burma, Central and South India

Wood greyish-brown or olive-grey, moderately hard, shining, close and even-grained, seasons well, durable, and is not attacked by insects. Weight 47 lbs per cubic foot.

A fine wood worth notice.

	lbs.
O 253. Garhwal (1868) . . . . .	48
O 1378. Gonda, Oudh . . . . .	45
O 1484. Kheri, Oudh . . . . .	48
D 1087. Madura, Madras . . . . .	46
B 2286 Andaman Islands (1866) . . . . .	47

**1009 T. monopetala, Roxb.**

Vern.—*Meda*, *gwa*, *singraf*, *sangran*, *marda*, *kat marra*, *kakiri*, *keraul*, *patna*, *katmoria*, *papria*, *katmedh*, *kari*, *randkari*, HIND; *Mendah*, *ka*, *kjera*, *toska*, *leja*, GOND, *Pojo*, *hajam*, KOL, *Leinja*, KURKU; *Raimanti*, *kadmero*, NEPAL, *Suphut*, LEPCHA, *But*, *mogasang*, MECHI; *Sualu*, ASS; *Huara*, CACHAR, *Bolbek*, GARO; *Ranamba*, MAR; *Utgdung*, BURM.

A moderate sized evergreen tree of the sub-Himalayan tract from the Ravi eastwards, Kumaun, Garhwal, Bengal, Burma, Central and South India.

Wood olive-grey, soft, not durable; is readily attacked by insects.  
Weight 38 lbs. per cubic foot.  
It is used for agricultural implements.

○ 236. Garhwal (1868)	lbs.
○ 1367. Gonda, Oudh	38
	38

### *Tetranthera polyantha*, Wall.

Vern.—*Siltimber*, NEPAL; *Terhilsok*, LEPCHA; *Adakuri*, *edenkuri*, *mesenkuri*, ASS.

A small tree of the Eastern Himalaya, Assam, and the Khásia Hills, generally of old cultivated land.

E 3410.

### *T. sp.*

Vern.—*Hooria*.

Wood soft.

E. 717. Chittagong	lbs.
	34

### *T. tomentosa*, Roxb.

Vern.—*Phusri*, NEPAL; *Phane*, LEPCHA.

A tree met with in Himalaya, from Sirmur (*Wallich*) eastwards, common in the Sikkim Hills from 6,000 to 8,000 feet, South India, and Burma.

Wood soft greyish-yellow with an unpleasant odour when fresh cut.

E 3374. Darjeeling, 6,000 feet.

## TEUCRIUM.

### *Teucrium macrostachyum*, Wall., LABIATÆ.

Vern.—*Matsola*, *gurupis*, NEPAL; *Chung*, LEPCHA.

A small evergreen tree of the Eastern Himalaya from Nepal eastwards, Khásia Hills and Sylhet, from 5,000 to 8,000 feet.

Wood yellowish-white, moderately hard, close and even-grained.

Weight 41 lbs. per cubic foot.

It makes a fair fuel. It coppices well.

E 2411. Rangbúl, Darjeeling, 7,000 feet	lbs.
E 3376. Darjeeling, 6,500 feet	41
	38

## THAMNOCALAMUS.

### *Thamnocalamus spathiflorus*, Munro, GRAMINÆ.

Vern.—*Ringall*, JAUNSAIR; *Purmiok*, LEPCHA; *Myoosay*, BHUTIA.

The common small bamboo of Hattu and Deoban. It is generally found on the Himalayas from the Sutlej to Bhutan, above 8,000 feet.

H 131. Kulu.

E 3426. Tonglo, Darjeeling, 10,000 feet.

## THESPESIA.

### *Thespesia lampas*, Dalr. & Gibs, MALVACÆ.

Vern.—*Bonkapash*, ASS.; *Kondapatti*, TEL.

A shrub found in most parts of India.

Wood weighs 29 lbs. per cubic foot.

THESPE-  
SIA.

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1014

1015

## TURPINIA.

1016 *Thespesia populnea*, Corr.

THE PORTIA TREE OR TULIP TREE.

Syn.—*HIBISCUS POPULNEUS*, Willd.Vern.—*Parsipu*, HIND.; *Poresh*, *parash*, BENG.; *Porj*, *purāsa*, *portia*, *pursa*, *pursung*, *puvarasam*, TAM.; *Gangaraya*, TEL.; *Bendi*, GUZ., MAR.; *Asha*, *hurbashi*, KAN.; *Bugari*, HASSAN; *Sureye*, CINGH.

A moderate sized evergreen tree found in the Coast forests of India, Burma, and the Andāman Islands. Planted throughout India.

Sapwood soft; wood pale-reddish, with small, dark-coloured, hard heartwood. Weight about 50 lbs. per cubic foot.

Wood durable; it is used in South India for gun-stocks, boats, cart and carriage-making and for furniture; in Burma for carts and furniture.

		lbs.
C	1050. Guzerat . . . . .	50
E	2488. Calcutta . . . . .	...
B	2470. Andaman Islands ( <i>Kurz</i> , 1866). . . . .	...
No.	51. Salem Collection . . . . .	53
No.	28. " (marked <i>Eugenia caryo-</i> <i>phyllæfolia</i> ) . . . . .	48
No.	80. Ceylon Collection . . . . .	49

## TODDALIA.

1017 *Toddalia aculeata*, Pers., *RUTACEÆ*.Syn.—*SCOPOLIA ACULEATA*, Sm.Vern.—*Kanj*, HIND.; *Dahan*, *lahan*, RAJPUTANA; *Meinkara*, NEPAL; *Saphijirik*, LEPCHA; *Tundupara*, URIYA; *Milkaranai*, TAM.; *Kondakashinda*, TEL.

A large scandent shrub, the branches covered with prickles, of the outer Himalaya from Kumaun eastwards, Khāsia Hills, and Western Ghâts, ascending to 7,000 feet.

Wood porous, yellowish-white, soft.

E 2855. Tukdah, Darjeeling, 5,000 feet.

## TREWIA.

1018 *Trewia nudiflora*, Linn., *EUPHORBIACEÆ*.Vern.—*Tūmri*, *khamara*, *bhillaura*, HIND.; *Pitali*, BENG.; *K'rong*, NEPAL; *Gara lahadarug*, KOL.; *Gamhar*, MONGHYR; *Momda*, URIYA; *Garum*, *gamari*, NEPAL; *Tungflam*, LEPCHA; *Pitari*, MAR.; *Kat kumbla*, KAN.; *Hruprukban*, MAGH; *Thitmyoke*, *ye-myot*, BURM.

A deciduous tree of the sub-Himalayan tract from the Jumna eastwards, ascending to 3,000 feet, Bengal, Burma, and South India.

Wood white, soft, not durable. Weight 29 lbs. per cubic foot.

Used for native drums and agricultural implements.

		lbs.
E	2468. Calcutta . . . . .	29
B	311. Burma (1867) . . . . .	28

## TURPINIA.

1019 *Turpinia nepalensis*, Wall., *SAPINDACEÆ*.Syn.—*T. POMIFERA*, DC.Vern.—*Thali*, NEPAL; *Murgut*, LEPCHA; *Nila*, NILGIRIS.

A moderate sized deciduous tree of Himalaya from the Nepal frontier

eastwards, between 4,000 and 7,000 feet, Assam, Cachar, Chittagong, and Burma.

Wood grey, soft, even-grained. Weight 30 lbs. per cubic foot.

It is not used.

E 540.	Sepoydura Forest, Darjeeling, 5,500 feet	30
E 2108.	Darjeeling, 6,000 feet	...

## ULMUS.

ULMUS.

### *Ulmus integrifolia*, Roxb., URTICACEÆ.

1020

Syn.—*HOLOPTELEA INTEGRIFOLIA*, Planch.

Vern.—*Papri, khulen, arjān, rajāin, kachām*, PB.; *Papar, kanju*, KUMAUN; *Papri, dhamna, kúnj, karanji, chilbi, chilmi, kumba, kúnja, nali, kandru, begana*, HIND.; *Daurango, Uriya, Chilla, Banda; Karinji*, GOND.; *Karanjel, Kurku; Aya*, TAM; *Namli, navli, nali, pedda-nawli-eragu*, TEL.; *Wawati*, MAR.; *Ras bija*, KAN.; *Thapsti*, MYSORE, COORG; *Kaladri*, HASSAN; *Dadahirilla*, CINGH; *Myoukseit*, BURM.

A large deciduous tree of the sub-Himalayan tract from the Beas eastwards, Central and South India, and Burma.

Wood light yellowish-grey, moderately hard, no heartwood. Weight 39 lbs. per cubic foot.

It is used for building, carts, and carving.

P 445.	Ajmere	42
O 264.	Garhwal (1868)	46
O 3002.	" (1874)	41
O 392.	Oudh	34
C 1148.	Ahiri Reserve, Central Provinces	37
C 1181.	"	37
B 1416.	Thariawaddi, Burma	42
B 1419.	"	41

### *U. lancifolia*, Roxb.

1021

Vern.—*Lapi*, NEPAI; *Thalai*, BURM.

A large tree of the North-East Himalaya from Sikkim to Assam, Chittagong, and Burma.

Wood light-red, hard.

E 3343. Singtam, Darjeeling, 1,500 feet.

### *U. sp.*

1022

Vern.—*Yimbok*, LADAK; *Brán, brahmi, kái, morún, marál, máru, mannu, mandu, manji, marn, meru, merinu, bhamji, bhamni, chipál*, PB.

A shrub or small tree met with in Kulu and Hazara.

Wood grey with darker streaks, hard, otherwise the structure is the same as that of *U. Wallichiana*. Weight 37 lbs. per cubic foot.

It is not used, but considered better than that of *U. Wallichiana*.

H 123.	Manali, Kulu, 7,000 feet	37
H 918.	Hazara, 7,000 feet	34
H 3164.	Dungagalli, Hazara, 7,000 feet	...

### *U. Wallichiana*, Planch.

1023

Vern.—*Káin, bren, brera, brámkul, amrái, marárai, marrun, morash, makshári, manderung, maldung, shko, kummar, hembra*, PB.; *Mored, pabuna, chambar máya*, HIND.

A large deciduous tree of the North-West Himalaya, from the Indus to Nepal, between 3,500 and 10,000 feet.

## VATICA.

Heartwood greyish-brown, moderately hard. Weight about 36 lbs. per cubic foot.

The wood is used locally in places where deodar is not available and *Pinus excelsa* not very abundant, such as in Hazara, where it finds a ready sale at from Rs. 3 to Rs. 5 per tree. It certainly seems worthy of more attention.

		lbs.
H 59.	Nagkanda, Simla, 8,000 feet . . .	40
H 122.	Marali, Kulu, 7,000 feet . . .	35
H 917.	Hazara, 7,000 feet . . .	32
H 3175.	Dungagalli, Hazara, 7,000 feet . . .	...

## VACCINIUM.

1024

*Vaccinium seratum*, Wight, VACCINIACEÆ.

Vern.—*Charu*, NEPAL.

A shrub, often epiphytic, found in Sikkim, Bhutan and the Khásia Hills, from 4,000 to 8,000 feet.

Wood white.

E 3296. Babookhola, Darjeeling, 4,000 feet.

## VATERIA.

1025

*Vateria indica*, Linn., DIPTEROCARPEÆ.

THE PINEY VARNISH OR INDIAN COPAL TREE.

Syn.—*V. MALABARICA*, Blume.

Vern.—*Piney maram*, *dhup maram*, *vallay kungiliam*, *kondricam*, TAM. *Dupa maram*, *dhupa*, *paini*, *munda dhup*, KAN.; *Dupada*, TEL. *Payani*, *paini mara*, *vella kondrikam*, MAL.; *Hal*, CINGH.

A large evergreen tree of the western moist zone. Western Ghâts from Kanara to Travancore, ascending to 4,000 feet.

Sapwood white with a tinge of red; heartwood grey, rough. Weight, 41 lbs. per cubic foot.

Wood not much in request, occasionally used for canoes, for coffins and the masts of native vessels.

		lbs.
W 747.	South Kanara . . . . .	41
W 1187.	" " . . . . .	41

## VATICA.

1026

*Vatica lanceaefolia*, Bl., DIPTEROCARPEÆ.

Vern.—*Morhal*, ASS.; *Moal*, SYLHET; *Panthitya*, BURM.

A large tree of the Eastern Himalaya, Assam, Eastern Bengal, Chittagong, and Burma.

Heartwood red, rough, hard. Weight about 52 lbs. per cubic foot.

The wood is not very good.

		lbs.
B 2508.	Burma (1862) . . . . .	35
B 2282.	Andamans (1866) . . . . .	52

## VIBURNUM

## VENTILAGO.

**Ventilago maderaspatana**, Gaertn., RHAMNÆ.

1027

**Vern.**—*Raktapita*, BENG.; *Yerra chicatli*, TEL.; *Pampli*, TAM., KAN.; *Lo-kandi*, kanwail, BOM.; *Chorgu*, HYDERABAD.

A large climbing shrub found in Central and Southern India, and Burma.

Wood greyish yellow, porous, soft.

C 2920. Central Provinces.

## VERNONIA.

**Vernonia volkameriaefolia**, DC., COMPOSITÆ.

1028

**Syn.**—*V. acuminata*, DC.

A small tree of the Eastern Himalaya, South India, and Burma.

Wood whitish, turning pale brown, moderately hard. Weight 31.5 lbs. per cubic foot.

E. 3312. Pankabari, Darjeeling, 3,000 feet.

## VIBURNUM.

**Viburnum coriaceum**, Bl., CAPRIFOLIACEÆ.

1029

**Vern.**—*Kala titmaliya*, KUMAUN; *Bara gorakuri*, NEPAL.

A large shrub or small tree of the Himalaya from the Sutlej to Bhutan at 4,000 to 8,000 feet, Khásia Hills, Nilgiris, and Ceylon.

Wood similar to that of *V. cotinifolium*. Weight 50 lbs. per cubic foot.

H 2835. The Glen, Simla, 6,000 feet . . . . . lbs.  
50

**V. cotinifolium**, Don.

1030

**Vern.**—*Mar ghwalawa*, TRANS-INDUS; *Rich kálu*, *bankunch*, JHELM; *Richabi*, *kilmich*, *gúch*, KASHMIR; *Bathor*, *pápat*, *kalam*, *khimor*, *rájai*, *tumma*, CHENAB; *Kátonda*, RAVI; *Jawa*, *khatip*, *tústás*, *sússú*, SUTLEJ; *Gwia*, *guya*, KUMAUN.

A large deciduous shrub met within the Sulaiman Range, North-West Himalaya, between 4,000 and 11,000 feet.

Wood white, hard to very hard, close-grained.

H 52. } Nagkanda, Simla, 8,000 feet.  
H 2869 }  
H 76. Mashobra, „ 7,000 „

**V. erubescens**, Wall.

1031

**Vern.**—*Gánné*, *asari*, NEPAL; *Kancha*, LEPCHA; *Nakouli*, *damshing*, BHUTIA.

A small tree of the Himalaya from Kumaun to Bhutan, between 5,000 and 11,000 feet; Nilgiris and Ceylon.

Wood very hard, reddish, close and even-grained. Weight 59 lbs. per cubic foot.

It might do as a substitute for boxwood and for carving. Used for house-posts in Sikkim.

E 3384. Rangbúl, Darjeeling, 7,000 feet . . . . . lbs.  
59

## VITEX.

1032 *Viburnum foetens*, Decaisne.

Vern.—*Gách, áklu, kúnch*, JHELUM; *Kilmich, gách, kwillim, kuldra, janára*, KASHMIR; *Tilhanj, púlmu, tiláts, tún*, CHENAB; *Talhang, tandei, túndhe, trínáni, senáni*, RAVI; *Talhang, tselain, tselain, thilkain*, SUTLEJ; *Guya*, KUMAUN.

A large shrub of the North-West Himalaya, from 5,000 to 11,000 feet. Wood white, hard to very hard, close-grained; similar in appearance and structure to that of *V. cotinifolium*. Weight 53 lbs. per cubic foot.

			lbs.
H 53.	Nágkanda, Simla, 8,000 feet	.	53
H 2886.	" "	.	...
H 3015.	Matiyána " "	.	...
E 975.	Chumbi Valley, Tibet, 10,000 feet	.	...

1033 *V. lutescens*, Bl.

Vern.—

A large shrub met with in Terai and Lower Hills of Sikkim, Assam, Khásia Hills, in damp ever-green forests.

Wood reddish, soft.

E 3273. Muraghát Reserve, W. Dúars.

1034 *V. Mullaha*, Ham.

Syn.—*V. stellulatum*, Wall.

Vern.—*Jal bágu*, JHELUM; *Amliacha, phuisel*, KASHMIR; *Lal tit-maliya*, KUMAUN; *Eri, ira*, SIMLA.

A shrub of the North-West Himalaya from 6,000 to 10,000 feet.

Wood white, moderately hard.

H 2834. The Glen, Simla, 6,000 feet.

H 2866. Nágkanda, " 8,000 "

## VILLEBRUNEA.

1035 *Villebrunea frutescens*, Bl., URTICACEÆ.

Syn.—*URTICA FRUTESCENS*, Thumb.

Vern.—*Gar tashiára, poidhaua, kagshi*, KUMAUN; *Kirma*, NEPAL; *Tak-bret*, LEPCHA.

A shrub or small tree of Himalaya, from Simla eastwards, Sikkim, Bhutan and Assam, ascending to 5,000 feet.

Wood brown, moderately hard.

H 3130. Simla, 5,000 feet.

## VITEX.

1036 *Vitex alata*, Roxb., VERBENACEÆ.

Syn.—*V. PEDUNCULARIS*, Wall.

Vern.—*Osai*, ASS.; *Boruna, goda*, BENG.; *Krawru*, MAGH; *Hila aumal*, CACHAR; *Shelangri*, GARO; *Kyetyo*, BURM.

A tree met with in Assam, Chittagong, and Burma.

Wood purplish or reddish grey, heavy, hard, close-grained. Weight, 60 lbs. per cubic foot.

Used in Cachar for posts and beams; in the Gáro Hills for suga-cane crushers.

			lbs.
E 784.	Kámrúp, Assam	.	...
E 1393.	Chittagong	.	60
B 1423.	Tharrawaddi, Burma	.	50

## VITEX.

**Vitex altissima, Linn.**

**Vern.**—*Ahay*, Ass.; *Simyanga, gna*, KOL.; *Maila*, TAM.; *Myrole, balgay, nauladi, sampaga-pala*, KAN.; *Banalgay*, MAR.; *Milille*, CINGH.

A large tree of Bengal, South India, and Ceylon.

Wood grey with a tinge of olive-brown, hard, close-grained, polishes well. Weight 53 lbs. per cubic foot.

It is used for building and for carts, and deserves attention.

	lbs.
W 724. South Kanara . . . . .	53
W 757. . . . .	50
Nos. 54 (56 lbs.) and 78 (49 lbs.) Ceylon Collection . . .	...

1037

**V. leucoxylon, Linn. f.**

**Syn.**—*V. SALIGNA, Roxb.*

**Vern.**—*Goda, horina, ashwal*, BENG.; *Luki, neva-ledi*, TEL.; *Sengeni, karril*, KAN.; *Tokra*, MAGH.; *Longarbi thras*, MAR.; *Htouksha*, BURM.

A very large deciduous tree of Chittagong, Burma, Andaman Islands, and South India.

Wood grey with a satiny lustre, hard, close-grained, durable.

Weight about 42 lbs. per cubic foot.

It is used for cart-wheels, and deserves attention for furniture and other purposes.

	lbs.
E 1392. Chittagong . . . . .	45
B 330. Burma (1867) . . . . .	40
B 2549. " (1862) . . . . .	40
B 2711. Tavoy (Wallich, 1828) . . . . .	36
B 2218. Andaman Islands (1866) . . . . .	44

1038

**V. Negundo, Linn.**

**Vern.**—*Marwan, moráun, maura, mora, wana, banna, torban, biuna*, PR.; *Shiwari, shawuli, nengar, mewri, newri, nisindo*, HIND.; *Beyguna, URIYA*; *Ehári*, KOL.; *Sindwar*, KHARWAR; *Samalu*, MONGHYR; *Nirgunda, nigúr*, MAR.; *Nirgiri*, GOND; *Nirgudi*, KURKU; *Vella-nuchy*, TAM.; *Veyala*, TEL.; *Lakki*, KAN.; *Súdú nika*, CINGH.

A deciduous shrub, common in the drier parts of India, and ascending to 3,000 feet in the North-West Himalaya.

Wood greyish-white, hard. Weight 42 lbs. per cubic foot.

The branches are used for wattle-work.

	lbs.
H 3044. Kumharsen, Sutlej Valley . . . . .	42
C 2789. Melghát, Berar . . . . .	41

1039

**V. pubescens, Vahl.**

**Syn.**—*V. ARBOREA, Roxb.*

**Vern.**—*Muria*, URIYA; *Nowli eragu, búsi*, TEL.; *Myladi*, TAM.; *Kyet-yoh*, BURM.

A large tree of South India, Burma, and the Andaman Islands.

Wood smooth, grey, with an olive-brown tinge, very hard, close-grained.

Weight about 55 lbs. per cubic foot.

It is durable, and is used for various purposes in South India.

	lbs.
D 1058. South Arcot, Madras . . . . .	51
D 1063. Cuddapah . . . . .	59
B 1429. Tharrawaddi, Burma . . . . .	56
B 2550. Burma (1862) . . . . .	51
No. 10. Ceylon Collection [marked <i>V. altissima</i> ( <i>Caha milille</i> )] . . . . .	56
C 3550. Khurda Forests, Orissa . . . . .	52

1040



## WENDLANDIA.

## WALLICHIA.

1041 *Wallichia disticha*, T. And., PALMÆ.Vern.—*Katong*, LEPCHA.

A handsome palm of the outer hills of Sikkim, found by Brandis as far west as Kumaun.

Wood soft.

E 878.	Darjeeling	.	.	.	.	.	lbs.
E 2460.	"	.	.	.	.	.	...

## WALSURA.

1042 *Walsura robusta*, Roxb., MELIACEÆ.Vern.—*Upphing*, SYLHET; *Gyopho*, tsoukmayba, BURM.

Wood light red, very hard.

B 1986.	Andaman Islands	.	.	.	.	lbs
						...

## WEBERA.

1043 *Webera asiatica*, Linn, RUBIACEÆ.Syn.—*W* COKYMBOSA, Willd, SYLOCORYNE WEBERA, A Rich.Vern.—*Kankra*, BENG; *Kachuria chall*, CUTTACK, *Komi*, TEL, *Tarana*, CINGH.

A large shrub or small tree of Bengal, South India, and Ceylon

Wood yellowish white, hard, close-grained Weight 57 lbs. per cubic foot

It is said by A. Mendis to be used in Ceylon for fishing-boats.

No. 84.	Ceylon Collection	.	.	.	.	lbs.
C 3579.	Khurda Forests	.	.	.	.	...
C 3520.	"	.	.	.	.	..

## WENDLANDIA.

1044 *Wendlandia exserta*, DC, RUBIACEÆ.Syn.—*W* CINEREA, DC, RONDELETIA EXSERTA, Roxb.Vern.—*Chaulat chila*, *chikhiya*, *tila*, *birsa*, *tilki*, *tilai*, HIND; *Kangri*, *tilki*, *mimri*, NEPAL, *Kursi*, SEONI; *Marria*, GOND, *Tilliah*, BAIGAS in MANDLA.

A small deciduous tree of the sub-Himalayan tract from the Chenab eastwards, Oudh, Bengal, Central and Southern India.

Wood reddish-brown, hard, close-grained. Weight 47 lbs. per cubic foot.

Used for building and agricultural implements, and for house-posts in the Sikkim Terai.

O 1370.	Gonda, Oudh	.	.	.	.	lbs.
E 589.	Khookloong Forest, Darjeeling Terai	.	.	.	.	47

**Wendlandia Notoniana, Wall.**

Vern.—*Rameneidelle*, CINGH.

A small tree of South India and Ceylon.

Wood red, and similar in structure to that of *W. exserta*.

No. 24. Ceylon collection (marked *W. bicuspidata*) lbs. 48

**WRIGHTIA.**

1045

**WIGHTIA.**

1046

**Wightia gigantea, Wall., SCROPHULARINEÆ.**

Vern.—*Lakori*, NEPAL; *Bop*, LEPCHA.

A huge epiphytic tree of the hill forests of Sikkim and Bhutan, from 3,000 to 7,000 feet, which climbs by sending out horizontal, stem-clasping, aerial roots round the stem of the tree on which it grows, and it often shews its masses of pink flowers above the summit of the latter.

Wood white, light, moderately soft, porous; but does not warp.

The wood is used to make Buddhist idols.

E 3323. Rangirúm, Darjeeling 6,000 feet.

**WOODFORDIA.**

**Woodfordia floribunda, Salisb., LÆTHRACEÆ.**

1047

Syn.—*W. TOMENTOSA*, *Beddome*; *W. FRUTICOSA*, *Kurz.*; *GRISLEA TOMENTOSA*, *Roxb.*

Vern.—*Dáwi*, *thawi*, *sautha*, *dhaula*, HIND.; *Gul daur*, KANGRA; *Dhai*, KUMAON; *Dhewi*, OUDH; *Dhuvi*, *surtári*, C. P.; *Pitta*, *petisurali*, *surtayli*, GOND; *Icha*, KOL.; *Dadki*, BHUMIJ; *Harwari*, *jatiko*, URIYA; *Khiuni*, *dhi*, KURKU; *Dahiri*, *laldairo*, NEPAL; *Chungkyek dum*, LEPCHA; *Jargi*, TEL.; *Phulsatti*, MAR.; *Datti*, BHIL.

A large shrub common throughout India, ascending to 5,000 feet in the Himalayas.

Wood reddish-white, hard, close-grained. Weight about 46 lbs. per cubic foot.

C 2794. Melghát, Berar

E 876. Chenga Forest, Darjeeling Terai

lbs.

46

...

**WORMIA.**

**Wormia triquetra, Rottb., DILLENIACEÆ.**

1048

Vern.—*Diyapara*, CINGH.

Found in Ceylon up to 2,000 feet.

Wood reddish in structure, resembling that of *Dillenia*. Weight 44 lbs. per cubic foot.

It is used for building.

No. 22. Ceylon Collection

lbs.

44

**WRIGHTIA.**

**Wrightia tinctoria, R. Br., APOCYNACEÆ.**

1049

Syn.—*NERIUM TINCTORIUM*, *Roxb.*

Vern.—*Dudhi*, BANDA; *Khirmi*, MEYWAR; *Púlá*, *veypalé*, TAM.; *Tedlapál*, *Kala kúdú*, MAR.

A small deciduous tree of Rajputana, Central and South India.

## XYLIA.

Wood moderately hard, close-grained. Weight about 49 lbs. per cubic foot.

It is used for carving and turning.

P 456.	Ajmere	.	.	.	.	lbs.
P 3222.	Nagpahar, Ajmere	.	.	.	.	49

1050 **Wrightia tomentosa**, *Rom. & Sch.*

**Syn.**—*W. mollissima*, Wall.; *Nerium tomentosum*, Roxb.

**Vern.**—*Keor*, *kilwa*, PB.; *Dudhi*, *dharauli*, *daira*, HIND.; *Karingi-kurra*, NEPAL; *Sandikuyi*, KOL.; *Dudh-koraiya*, MONGHYR; *Selemnyok*, LEPCHA; *Pal kurwan*, URIYA; *Harido*, CUITACK; *Tella pal*, *kaila-mukri*, TEL; *Kala inderjan*, MAR.; *Athuri*, ASS., *Lettouk thein*, BURM.

A small deciduous tree of the sub-Himalayan tract from the Beas eastwards, Oudh, Bengal, Burma, Central and South India.

Wood yellowish white, moderately hard, close-grained. Weight about 44.5 lbs. per cubic foot

It is used for turning and carved work.

C 830.	Bairagarh Reserve, Berar	.	.	lbs.
W 998.	Poona	.	.	41
W 994.	Sahyadri Ghats, Ahmednagar	.	.	48
E 623.	Rakti Forest, Darjeeling Terai	.	.	49
				40

## XYLIA.

1051 **Xylia dolabriformis**, *Benth.*, LEGUMINOSÆ.

THE IRON-WOOD TREE OF PEGU and ARRACAN.

**Syn.**—*Mimosa xylocaria*, Roxb.; *Inga xylocarpa*, DC.

**Vern.**—*Jambu*, HIND.; *Jamba*, *suria*, MAR.; *Boja*, *longora*, URIYA; *Irul*, TAM.; *Konda tangedu*, *tangedu*, *eruvadu*, *bojeh*, TEL.; *Jambe*, *tirawa*, KAN.; *Shilve*, COORG; *Pynkado*, BURM.

A large deciduous tree, met with in the Chanda District, South India, Arracan, and Burma.

Sapwood small; heartwood dark-brown or reddish-brown, extremely hard, beautifully mottled, cross-grained. The wood is very durable—a property it doubtless owes in great measure to the resinous substance contained in it. Weight about 65 lbs. per cubic foot.

It is used for boat-building and for agricultural implements in Burma; also for carts and tool handles. In South India, it is used for railway sleepers, posts, boat-building and carts. In Burma and Bengal it has been largely used for telegraph posts, for which it has answered well. The large forests in Arracan, of which Dr. Schlich in his report on the iron-wood forests of Arracan, dated 1st September 1869, says that "a third of the forest vegetation consists of Pynkado," produce large numbers of telegraph poles and railway sleepers. Major Seaton in his report for 1876-77 said that 10,000 such sleepers from Arracan had then lately been sold at Calcuttia at Rs. 5 each, and Mr. Ribbentrop's Report states that Pynkado pieces and sleepers are brought out from the forests in Pegu. It is hard, heavy, and difficult to cut, but a useful wood for piles and beams of bridges.

C 1151.	Ahiri Reserve, Central Provinces	.	.	lbs.
W 754.	South Kanara	.	.	59
W 761.	" "	.	.	61
W 857.	" "	.	.	61

		lbs.
W 1222.	North Kanara . . . . .	62
B 805.	Tharrawaddi, Burma . . . . .	67
B 3066.	Burma (1862) . . . . .	66
B 151.	Tavoy (Wallich, 1828) . . . . .	62
C 3514.	Khurda Forests, Orissa . . . . .	54
C 3546	" " " . . . . .	...

ZANTHOX-  
YLUM.

## XYLOSMA.

**Xylosma longifolium, Clos., BIXINÆ.**

1052

Vern.—*Chopra, chirúndi, chirndi, drendu*, PB.; *Kattáwa*, OUDH; *Dandúl, katári, kandhara*, HIND.

A small, evergreen tree of the North-West Himalaya ascending to 5,000 feet, Assam.

Wood pinkish, moderately hard, even-grained. Weight 55 lbs. per cubic foot.

It is used for fuel and charcoal.

		lbs.
H 2947.	Jander, Sutlej Valley, 3,500 feet . . . . .	55

## ZANTHOXYLUM.

**Zanthoxylum acanthopodium, DC., RUTACEÆ.**

1053

Vern.—*Bogay timur*, NEPAL.

A small tree of the outer Himalaya from Kumaun to Sikkim, and the Khásia Hills, up to 7,000 feet.

Wood yellowish white, soft.

E 3415. The Park, Darjeeling, 6,500 feet.

**Z. alatum, Roxb.**

1054

Vern.—*Timbár, timár, tesmal, dúrmár*, HIND.; *Balay timur*, NEPAL; *Gaira*, MONGHYR.; *Sungrá*, LEPCHA.

A shrub or small tree of the outer Himalaya from the Indus to Bhutan, ascending to 7,000 feet; Khásia Hills.

Wood close-grained, yellow.

It is used for walking-sticks, and the small branches for cleaning the teeth.

		lbs.
H 107.	Bhajji, Simla, 4,000 feet . . . . .	46
E 2329.	Tukdah, Darjeeling, 5,000 feet . . . . .	34

**Z. Budrunga, DC.**

1055

Vern.—*Brojonali*, ASS.; *Mayaning*, BURM.

A tree of the Eastern Himalaya, Khásia Hills, Eastern Bengal, and Burma.

Wood moderately hard, close-grained, white.

E 3324. Pankabari, Darjeeling, 2,000 feet.

**Z. Hamiltonianum, Wall.**

1056

Vern.—*Purpuray timur*, NEPAL.

A climbing thorny shrub of Sikkim and Assam.

Wood yellowish white, soft.

E 3416. The Park, Darjeeling, 6,500 feet.

## ZIZYHUS.

1057 *Zanthoxylum ovalifolium*, Wight.

A shrub of Eastern Himalaya, Khásia Hills, Assam, and the Western Gháts.

Wood light yellowish-white, very hard, close-grained. lbs.

E 3356. Sivoke Hills, Darjeeling, 1,500 feet. 54

1058 *Z. oxyphyllum*, Edgew.

Vern.—*Timur*, NEPAL.

A climbing shrub of the Himalaya from Garhwal to Bhutan, from 6,000 to 8,000 feet; Khásia Hills, 4,000 to 6,000 feet.

Wood yellowish-white, soft, porous.

E 3375. Darjeeling, 6,500 feet.

## ZIZYPHUS.

1059 *Zizyphus Jujuba*, Lam., RHAMNÆ.

Vern.—*D'r, baer, beri*, HIND.; *Kál, b'r*, BENG.; *Zeeben*, BURM.; *Rengha, regi*, TEL.; *Yellande*, TAM.; *Bhor*, MAR.; *Kenga*, BHII.; *Elentha*, MAI.; *Yelchi*, KAN.; *Jibang*, MAGH.; *Yellantha*, MADURA; *Jumjan*, KOL.; *Ringa*, GOND.; *Bor*, BAIGAS; *Bogri*, RAJBANSI.

A moderate sized deciduous tree almost evergreen, cultivated throughout India and Burma; its original habitat doubtful.

Wood hard, reddish; no heartwood. Weight, about 52 lbs. per cubic foot.

Used for saddle-trees and agricultural implements, oil-mills, and other purposes.

O 265. Garhwal (1868) lbs.

C 2815. Melghát, Berar . . . . .

C 1128. Ahiri Reserve, Central Provinces . . . . . 43

D 1071. North Arcot, Madras . . . . . 52

P 885, from Multan, sent under the name of *Z. flexuosa*, has the same structure as *Z. Jujuba*, but the pores are round and moderate-sized. Weight, 48 lbs.

1060 *Z. nummularia*, W. & A.

Syn.—*Z. MICROPHYLLA*, Roxb.

Vern.—*Karkanna*, AFG.; *Malla, b'r, birár, jhari, kanta*, N. W. P.; *Gangr, jangra*, SIND.; *Parpalli, gidda*, KAN.

A thorny shrub met with in the drier parts of North-West India and the Dekkan.

Wood yellow, hard, compact. Weight 43 lbs. per cubic foot.

Used to make fences round fields and gardens.

P 2931. Bhajji, Simla, 3,000 feet lbs.

P 3077. } Sabathu, Punjab, 3,000 feet . . . . . 41

P 3093. } . . . . . 42

P 442. Ajmere . . . . . 46

1061 *Z. Cenoplia* Mill.

Syn.—*Z. NAPECA*, Roxb.

Vern.—*Makai*, HIND.; *Shyakúl*, BENG.; *Makhoa*, MONGHYR; *Barokoli*, URIYA; *Irán*, C. P.; *Paranu, paramie, porki*, TEL.; *Tausenway*, BURM.

A straggling or climbing shrub of Bengal, Burma, Central and Southern India.

## ZIZYPHUS.

Wood reddish, with the structure of a climber.

Used for hedges.

C 2753. Moharli Reserve, Central Provinces.

**Zizyphus xyphylla, Edgew.**

Vern.—*Kürkun ber*, AFG.; *Pitni, kokan ber, amlai, amni, beri, shamor*, PB.; *Giggar*, N. W. P.

A thorny shrub of the outer Himalaya from the Indus to the Ganges from 2,000 to 6,000 feet.

Wood white, moderately hard.

H 2947. Suni, Sutlej Valley, 3,000 feet.

**Z. rugosa, Lam.**

Syn.—*Z. LATIFOLIA*; Roxb. (*Fl. Ind.* 1, 607.)

Vern.—*Dhaura, dhauri*, OUDH.; *Suran, churna*, C. P.; *Suran*, MAR.; *Rukh baer, harray baer*, NEPA; *Tshirka*, KOL.; *Kataila*, KHARWAR; *Bogri*, RAJBANSHI.

A large scrambling shrub or small evergreen tree, of the sub-Himalayan tract from the Ganges eastwards, Burma, Central and South India.

Wood reddish, moderately hard, warps; often attacked by insects.

Weight 45 lbs. per cubic foot.

Only used as fuel.

E 2336. Bamunpuri, Darjeeling Terai . . . lbs.  
45

**Z. xylopyra, Willd.**

Vern.—*Kat-ber, biri, goti, gotaha, kakor, chittania, sitabér, ghónt*, HIND.; *Goti*, TEL.; *Goti, bhorgoti*, MAR.; *Challe*, KAN.; *Karkata*, KOL.; *Goit*, BHUMIJ; *Kankor*, KHARWAR; *Got, gotoboru, kanta bohól, URIYA*; *Ghattol, ghotia*, GOND.

A large scrambling shrub, of the sub-Himalayan tract from the Ganges to Nepal, Central and South India.

Wood yellowish brown, hard. Weight, 60 lbs. per cubic foot.

Used for carts and agricultural implements.

lbs.  
C. 2736. Moharli Reserve, Central Provinces . . . 49  
C 2764. Melghat, Bihar . . . ...  
C 3508. Sonakalla, Khurda, Orissa . . . ...  
C 3559. Khurda Forests, Orissa . . . 53  
C 3433. Latihar, Palamow, Chota Nagpore . . . ...









